105-B.

PERFORATED METALS

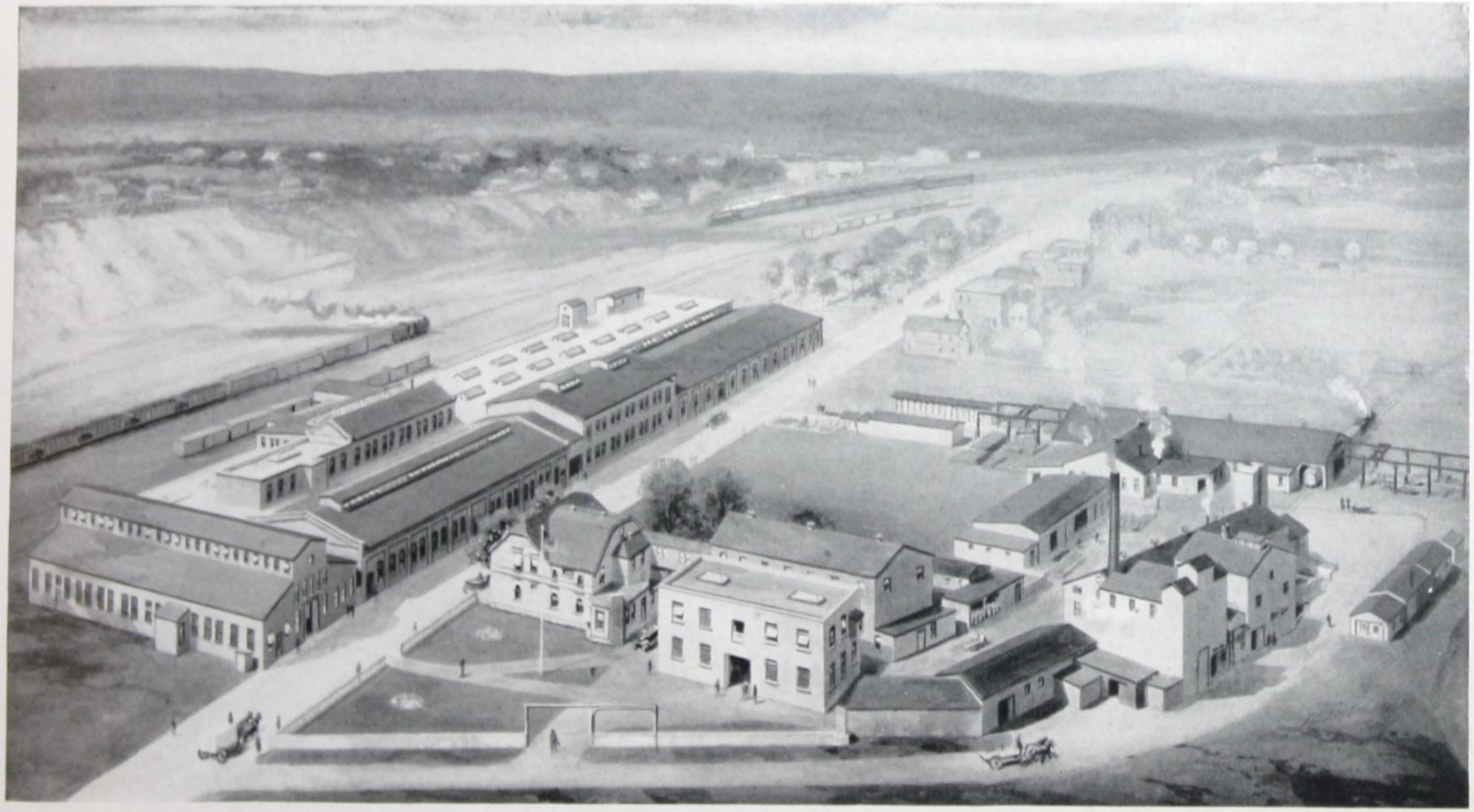
SHEET AND LIGHT STRUCTURAL IRON WORK

HENDRICK MANUFACTURING COMPANY

CARBONDALE · PA

OCT 7 '25

PERFORATED METALS



General Offices and Works of the HENDRICK MANUFACTURING CO., *Carbondale, Pa.*

PERFORATED METALS

SHEET *and* LIGHT STRUCTURAL IRON WORK

HENDRICK
MANUFACTURING CO.
General Offices and Works
CARBONDALE, PA.
New York Office
30 CHURCH ST.

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HENDRICK MANUFACTURING CO.
Carbondale, Pennsylvania

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USES OF PERFORATED METALS

Perforated Metal Screens are furnished in Steel (black and galvanized), Bronze, Copper, Brass, Yellow Metal, Zinc, Aluminum, American Ingot Iron, Lead, and other metals for use in:

Abbatoirs
Acid Factories
Agricultural Machinery
Alkali Works
Asbestos Plants
Automobiles

Blast Furnaces
Bleaching Plants
Boilers
Brick Works
Buckets

Cement Plants
Centrifugals
Chemical Works
Clay Working Plants
Coal Breakers, Washeries and Tipples
Coke Plants
Coffee Roasters
Concentrators
Copper Refineries
Cottonseed Oil Mills
Crushers

Detinning Plants
Dye Works

Extract Plants
Feed Mills
Fertilizer Plants
Foundries
Filter Presses

Garbage Plants
Grain Mills
Gravel Plants
Guano Plants
Gypsum Plants

Interior Decoration

Jigs

Kaolin Mines

Lignite Mines
Limestone Plants
Locomotive Spark Arresters
Locomotive Grease Cellars
Locomotive Lubricators
Locomotive Stokers
Locomotive Strainers

Machinery Guards
Meters
Munition Plants

Nitrate Plants

Oil Refineries
Ore Mines
Ore Washing Plants

Paraffine Wax Plants
Peanut Assorters
Phosphate Plants
Powder Mills
Pyrites Mines

Quarries

Rice Mills
Road Machinery

Sand Blast Machinery
Sand Plants
Sewage Disposal Plants
Sewer Pipe Plants
Shakers
Ships
Slag Plants
Smelters
Spark Arresters
Steam Traps
Stokers
Stone Crushers
Strainers
Sugar Refineries

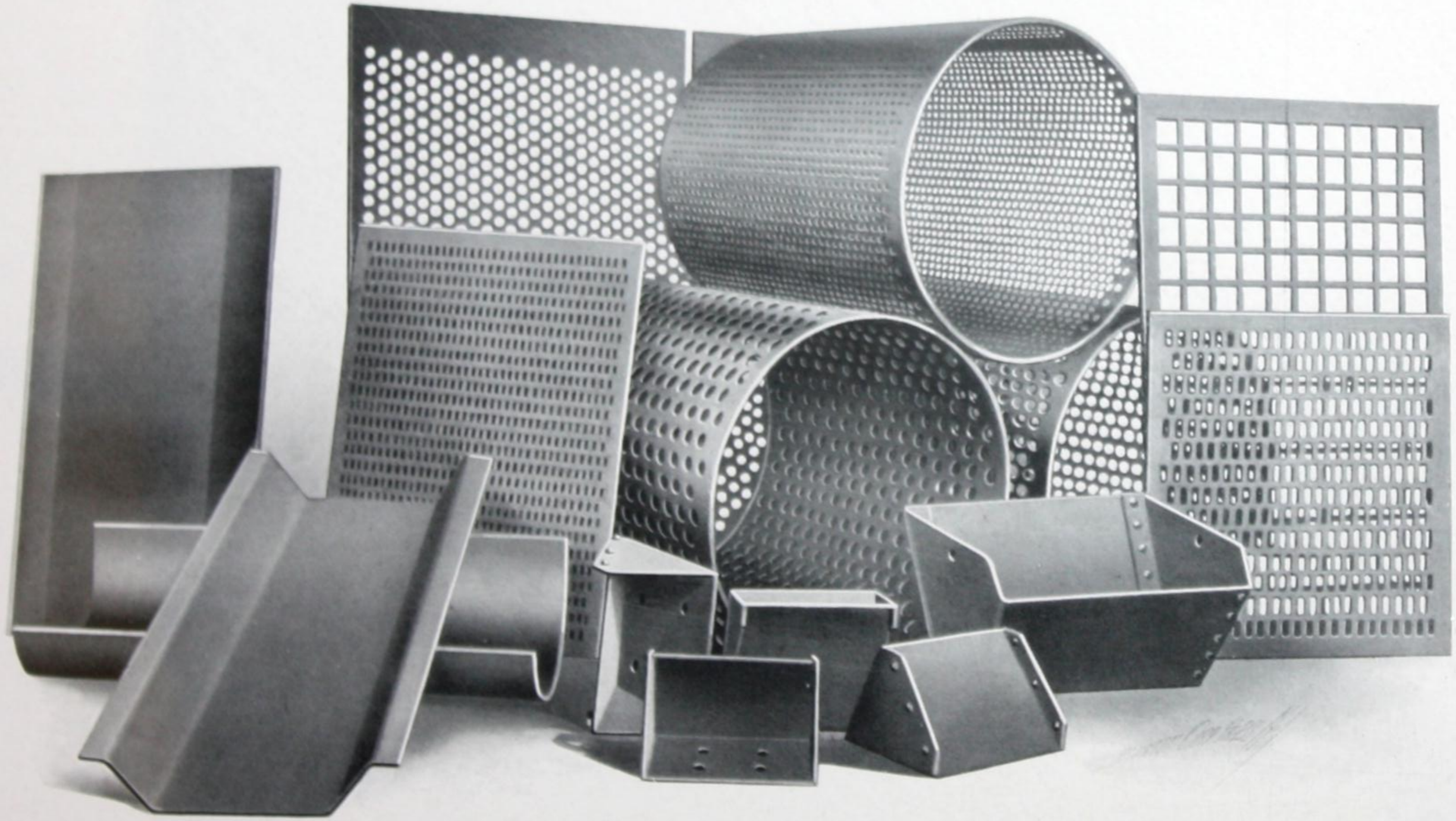
Tank Bottoms
Tar Extractors
Terra Cotta Plants
Tile Plants
Tobacco Product Plants

Ventilators

Water Works
Wheat Washers
Woolen Mills

Zinc Smelters

And for many other uses



"HENDRICK" Screens, Buckets and Trough

INTRODUCTION

IT is with considerable pride that we present this catalogue to our customers and friends, as well as to others whom we trust to make our customers and friends, with the hope that it will not be treated merely as a catalogue, but as a book of reference.

While we are generally known as manufacturers of Perforated Metals, we also make Elevator Buckets, plain and perforated, Conveyor Trough and Flights, Stacks, Tanks, Hoppers, Elevator Casings and Light Structural Steel Work.

With our experience of thirty-five years and with machines of the latest design, we are well equipped to meet the growing demand for Perforated Metal Screens in steel (black and galvanized), bronze, copper, brass, yellow metal, zinc, aluminum, lead, American ingot iron and other materials. Gauges from No. 30 United States Standard to one inch in thickness.

Plates are furnished flat; flanged up or down at ends or sides, with or without bolt holes for attaching to shakers; rolled to diameter or radius for revolving and conical screens, perforated over the entire surface, or with blank margins for bolt holes or attachments. If desired we can place more than one size of perforation in the same plate.

In our Plate Department we build elevating and conveying equipment such as Elevator Buckets, plain and perforated, Conveyor Trough and Flights, also Pans for Scraper and Apron Conveyors, Picking Tables and Loading Booms.

In our General Sheet and Structural Steel Department we make sheet steel work of every description, including Tanks, Hoppers, Coal and Ash Bunkers, Stacks, Smoke Flues, Elevator and Conveyor Casings, Screen Cases and General Sheet and Plate Pipe Construction. We are also prepared to fabricate Light Structural Steel Work, Chutes and Loading Booms for Tipples, Steel Truck Bodies, Mine Cars, Mine Car Parts, Coal and Ash Conveying Lines and Heavy Buckets for the handling of ore or other materials.

We have illustrated several special types of screens for different classes of work which we build to meet individual requirements.

We desire to call particular attention to the Patent Flanged Lip Screen which is manufactured exclusively by us. This screen is meeting with distinct approval by hundreds of satisfied users in the anthracite and bituminous coal fields. It is also used as a screen for coke. Its merits are many. (See pages 75 to 77.)

Manganese Bronze Screens are used largely in the anthracite coal regions to withstand the action of sulphurous mine waters. We have been selling the one make for over twenty-five years and it has given most satisfactory results. This material is also used for strainers, ventilators and sewage disposal systems.

We do not carry a stock of perforated metal, buckets, trough or other material fabricated by us, but have a large stock of blank plates and sheets of standard widths and lengths in No. 22 United States Standard Gauge to ½ inch thick, inclusive, enabling us to execute most orders promptly. Our proximity to the steel mills allows us to fill orders for special sizes without undue delay.

We invite correspondence from parties interested in the material we manufacture.

We do not issue a price list, as so many elements enter into the cost of the material we manufacture, such as quantity, size, perforation, etc., but will be pleased to quote prices on inquiry.

Trusting to receive your orders or inquiries, which will be given our careful attention, we are,

Respectfully yours

HENDRICK MANUFACTURING CO.

INFORMATION

TO save time and annoyance when ordering or sending for prices on perforated metals, we earnestly request that you give us all the information specified below:

State the number of sheets wanted. Kind of metal desired. Specify gauge or thickness. Steel is rolled to United States Standard Gauge by the majority of the mills and we will furnish same unless otherwise noted. The Standard Gauge for bronze and copper is Birmingham, and for brass, Brown & Sharpe. See tables in back of this book. The gauges must not be heavier than the maximum shown in the tables on pages 56 to 65, without special arrangement, although this can be varied slightly in the softer metals. Standard Gauges for coal and stone are given under these headings.

State the size of the sheets in inches. Unless otherwise noted, we will consider the small dimension the width. Give margins on ends and sides, with location of bolt holes, if any. A sketch is desired for taper sheets.

Give the size and shape of the perforations, also centers for round or square, and width of bars for slotted holes, stating in which direction of the sheet they are to run. See reproductions of perforations on pages 17 to 53, and list of tools on pages 56 to 65.

For coal work sheets are flanged up or down and bolt holes placed in flanges for attaching to shaker. If sheets are to be furnished in this manner, please show on sketch or order size of flange and location of bolt holes. Meshes and gauges shown on page 112.

If cylindrical screens are wanted, please state the number of pieces to the circle, inside or outside diameter, lap or butt joints, and if clips and bolts are required. (See pages 82 and 83.)

We request that you send sketches or blue prints for all work in our Plate or Structural Steel Line.

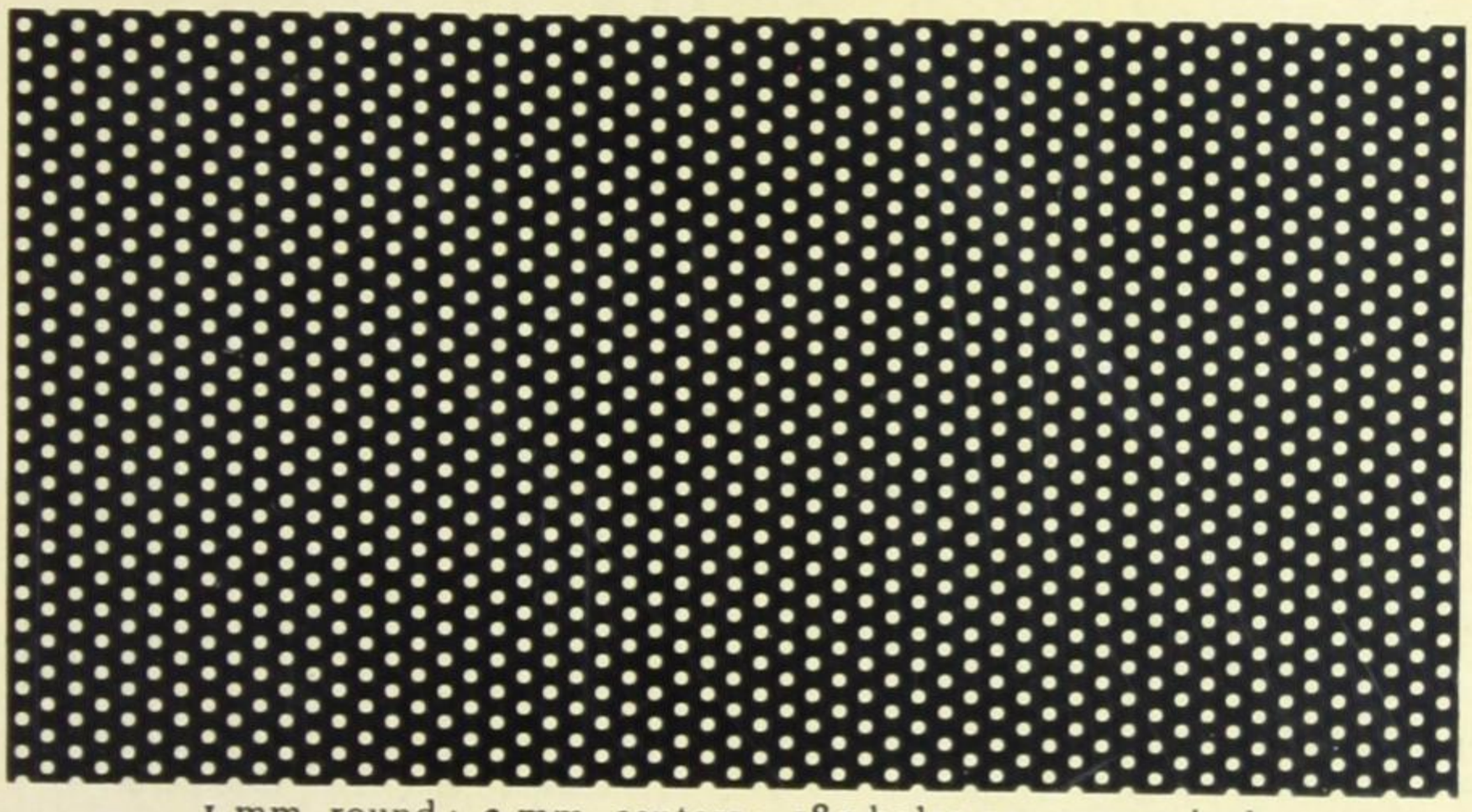
We are located on { Delaware & Hudson Railroad / Erie Railroad / New York Ontario & Western Railway }

Unless otherwise instructed we will ship via freight.

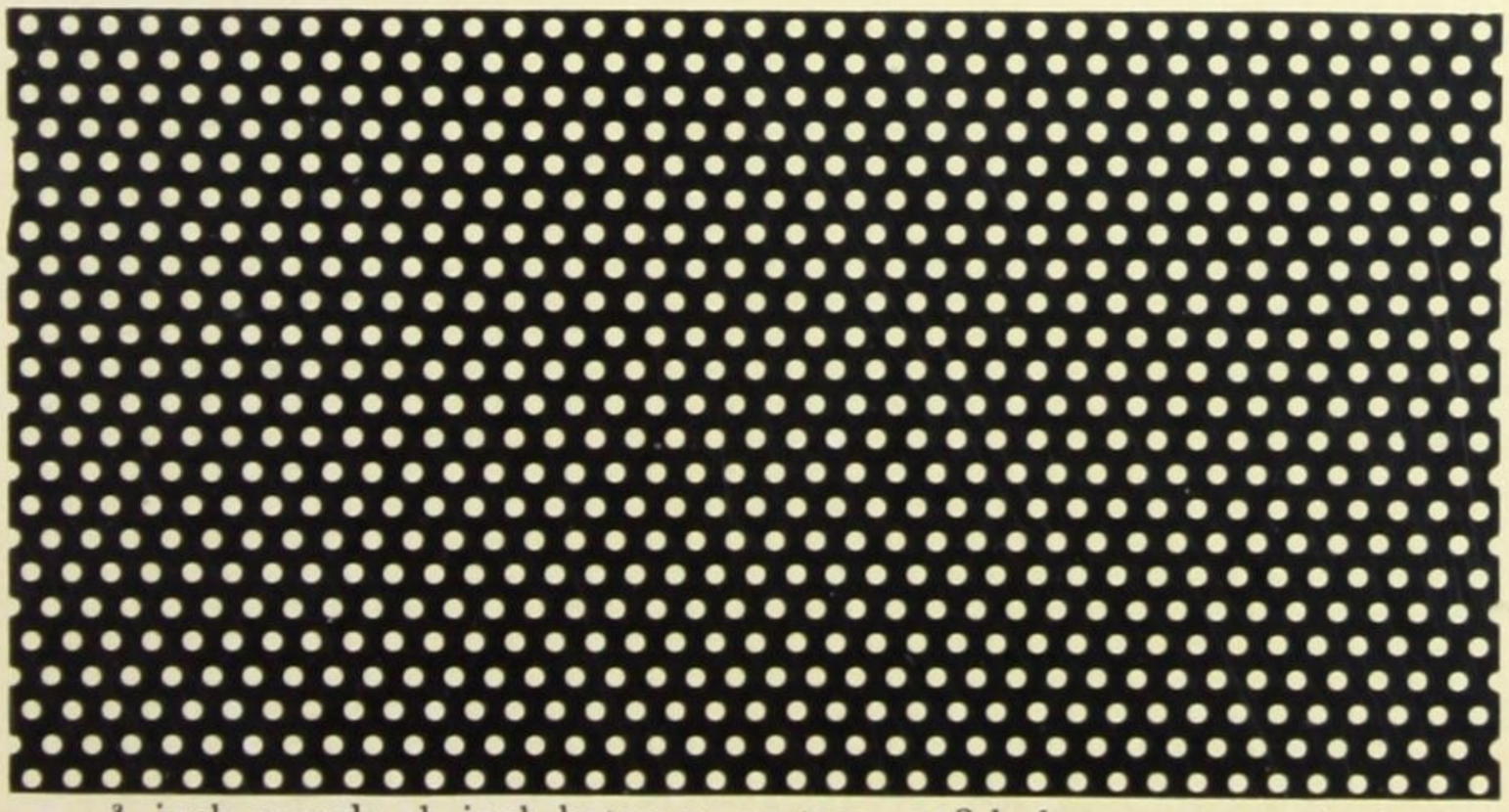
PERFORATED METAL SCREEN PLATES

HEN

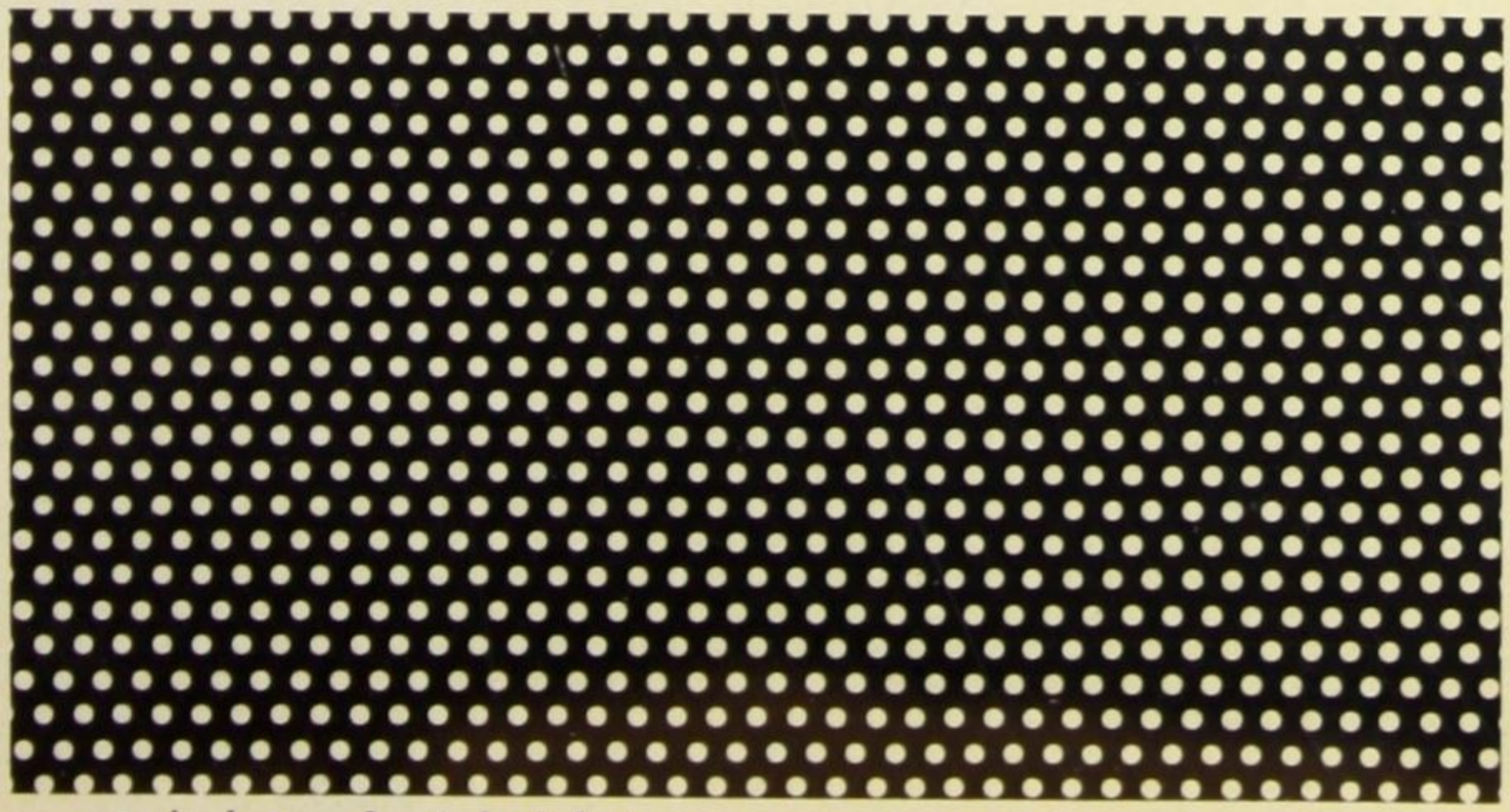
STANDARD PERFORATED SCREEN PLATES



1 mm. round; 2 mm. centers; 185 holes per square inch



$\frac{3}{64}$ inch round; $\frac{1}{10}$ inch between centers 118 holes per square inch

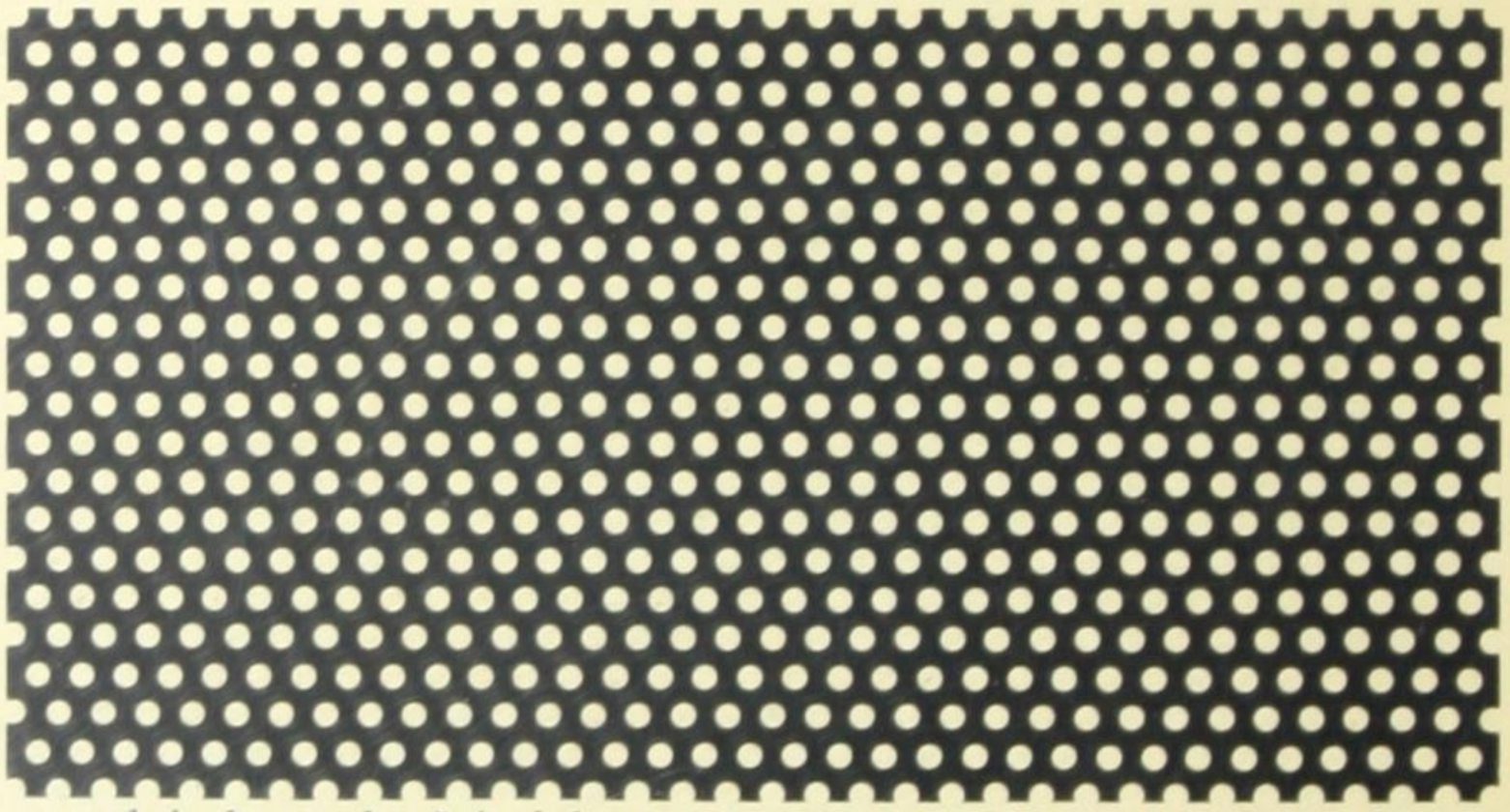


.055 inch round; $\frac{1}{10}$ inch between centers; 114 holes per square inch

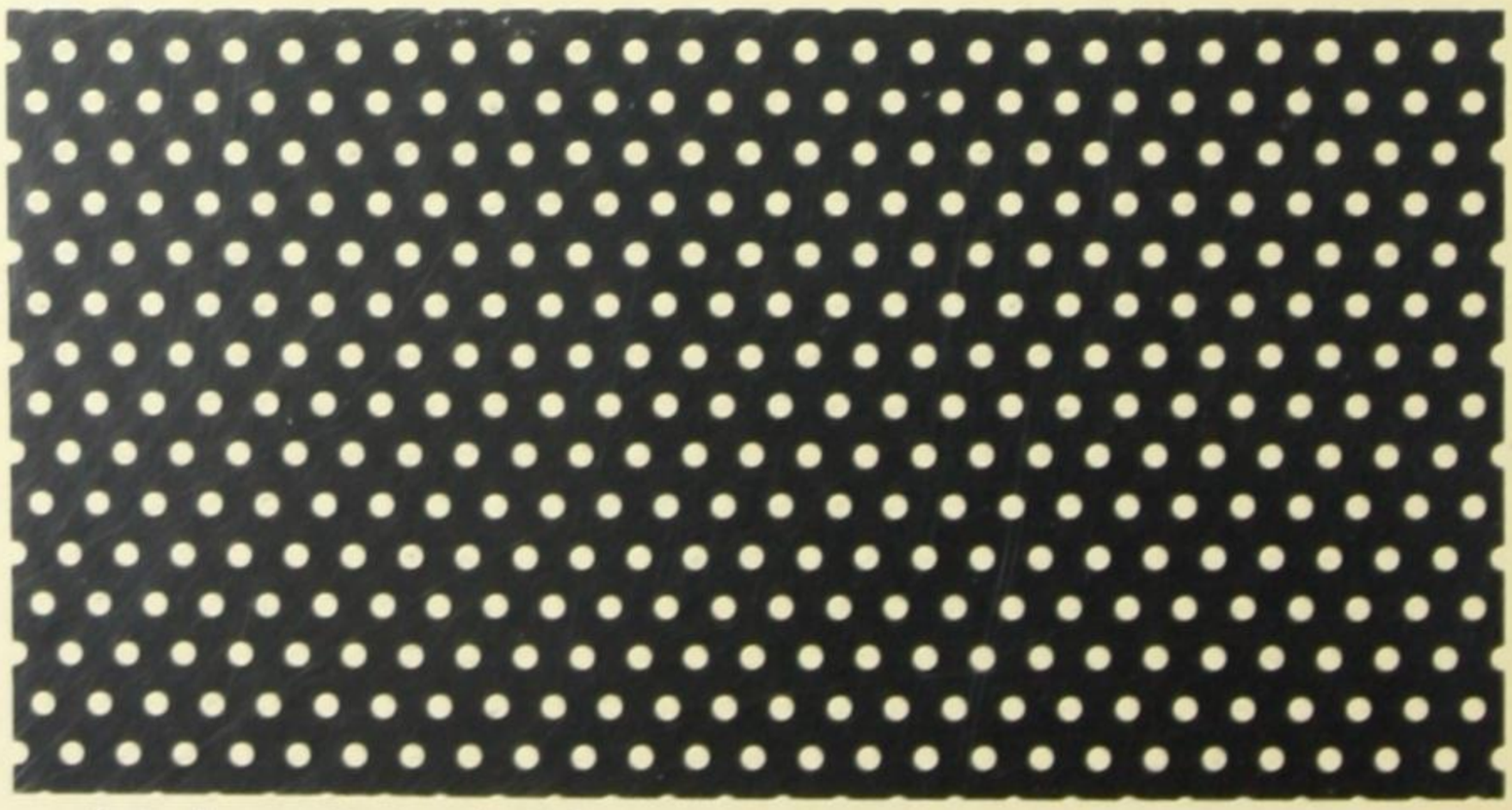
Reproduction of Perforations

For complete list of Perforations and Centers, see pages 56 to 58

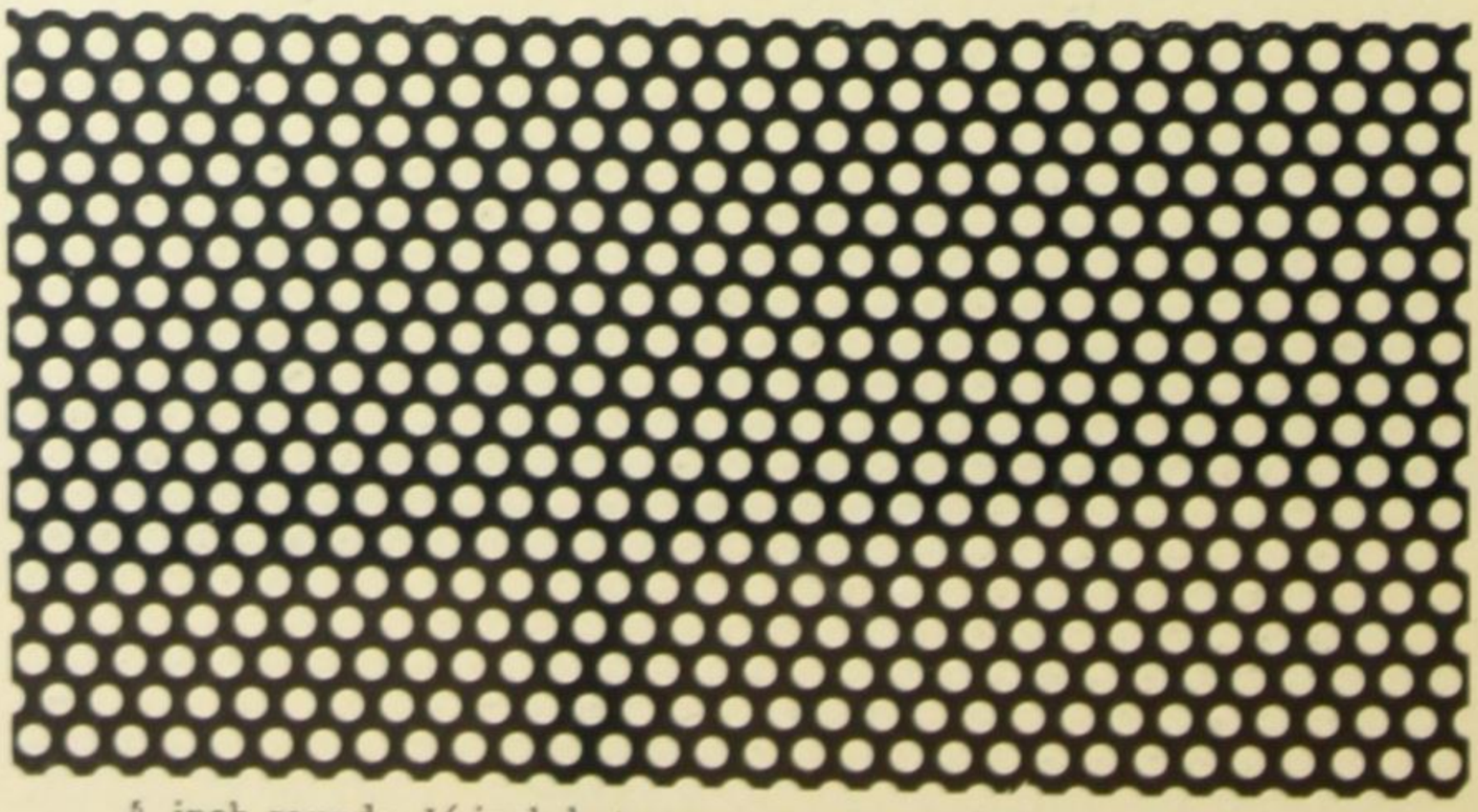
STANDARD PERFORATED SCREEN PLATES



$\frac{1}{16}$ inch round; $\frac{7}{64}$ inch between centers; 99 holes per square inch



$\frac{1}{16}$ inch round; .149 inch between centers; 51½ holes per square inch

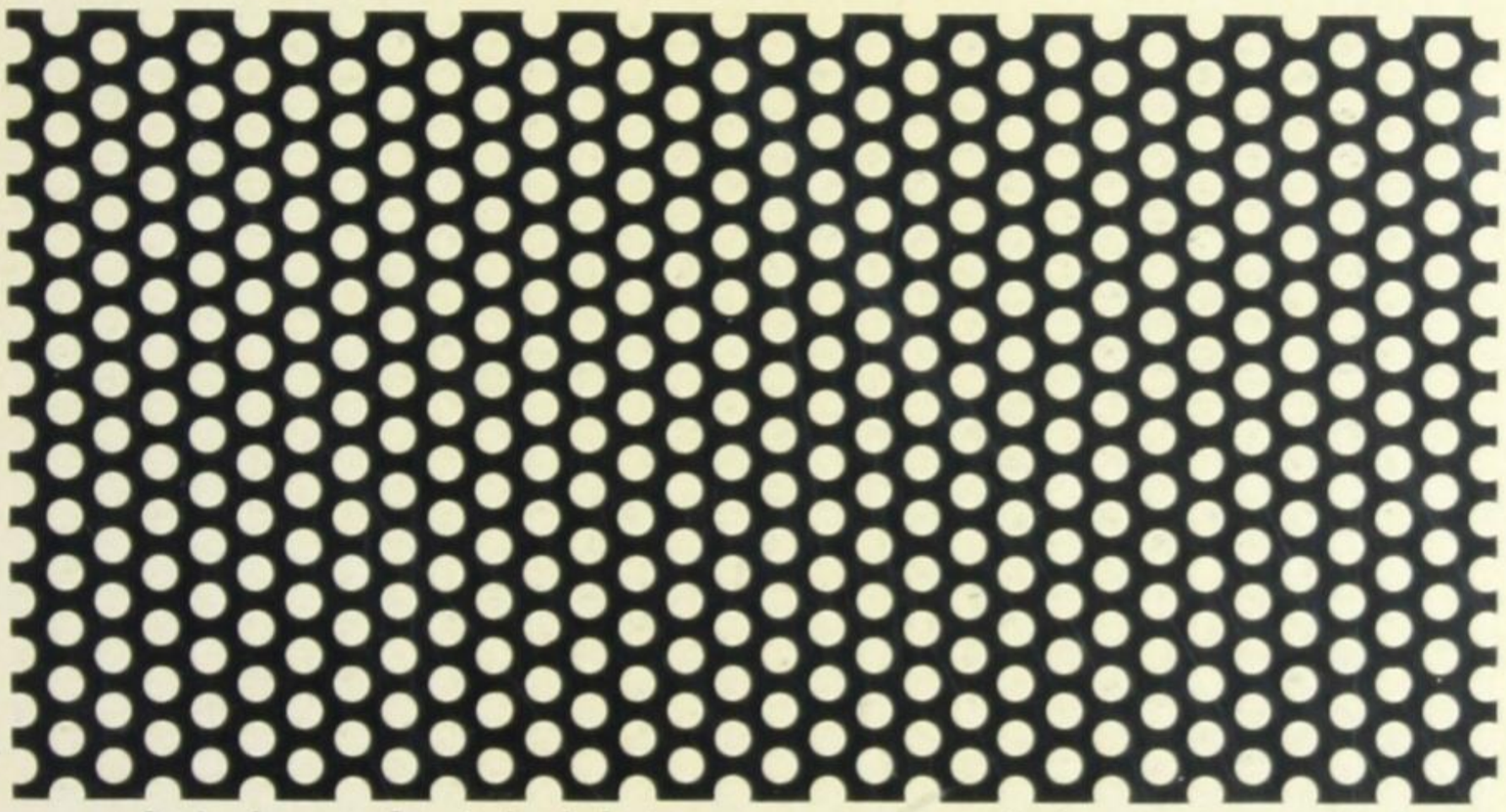


$\frac{5}{64}$ inch round; ⅛ inch between centers; 70 holes per square inch

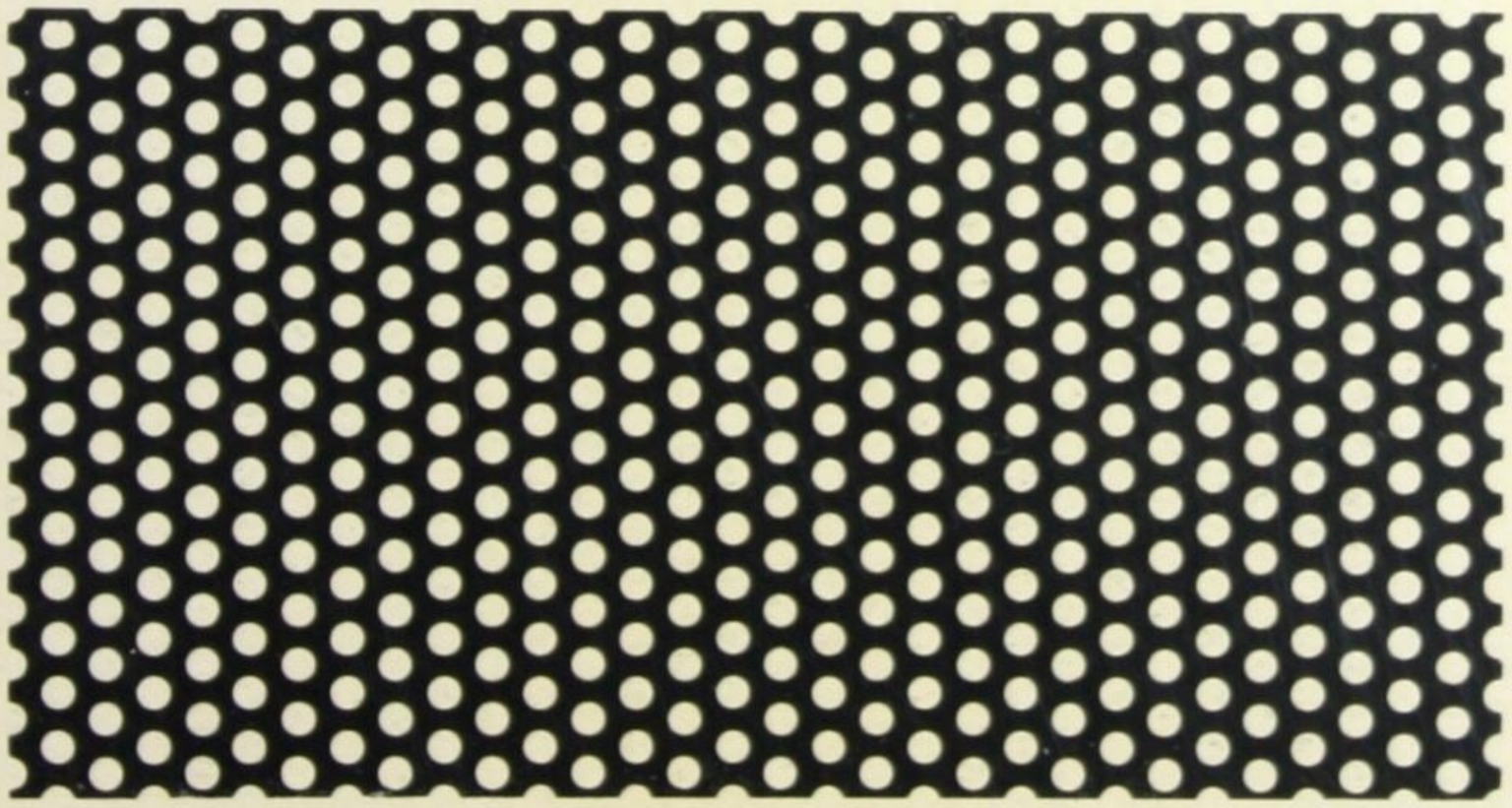
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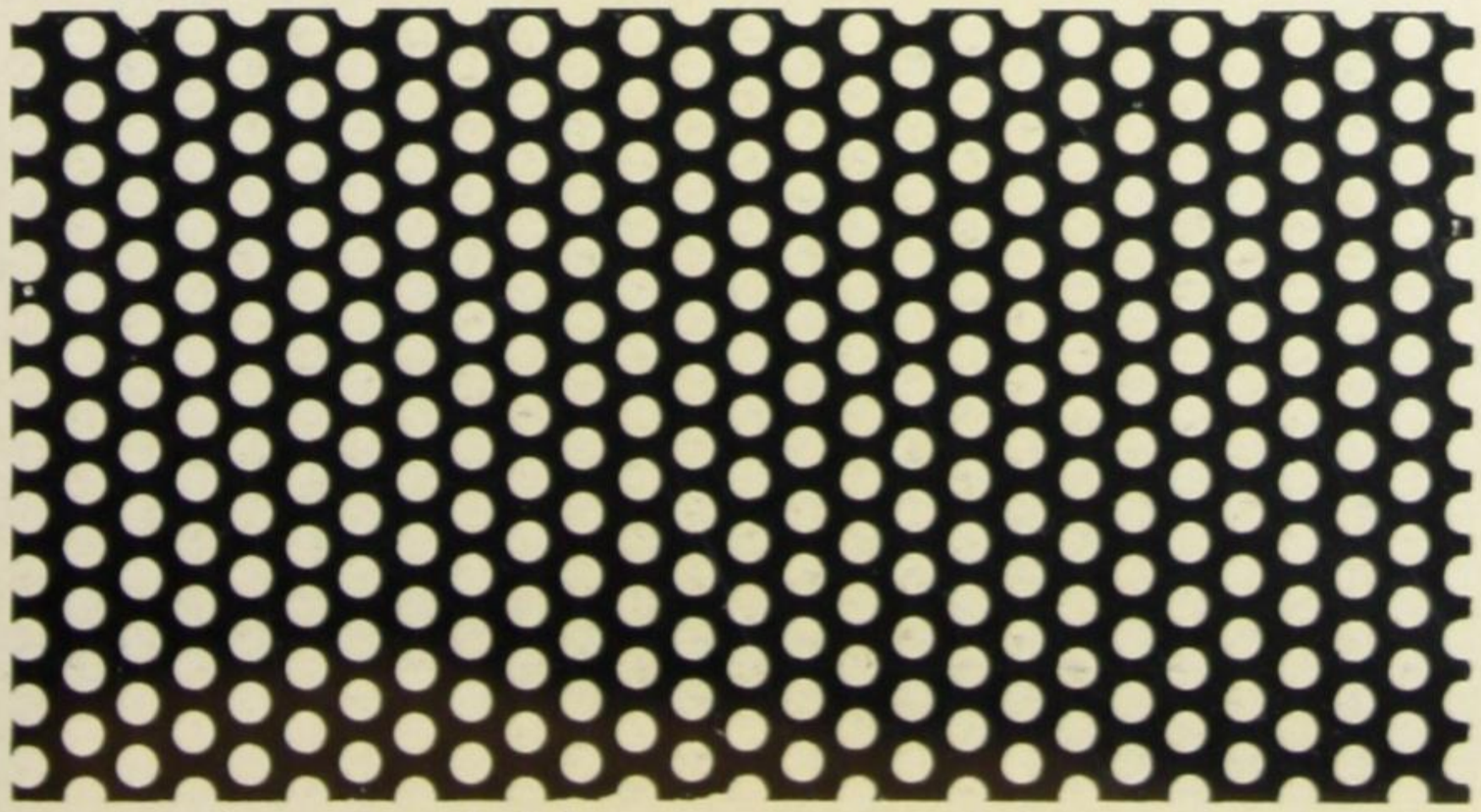
STANDARD PERFORATED SCREEN PLATES



.085 inch round ; $\frac{9}{64}$ inch between centers ; 55 holes per square inch



$\frac{1}{12}$ inch round; $\frac{9}{64}$ inch between centers ; 55 holes per square inch



$\frac{3}{32}$ inch round; $\frac{5}{32}$ inch between centers ; 43 holes per square inch

Reproduction of Perforations

For complete list of Perforations and Centers, see pages 56 to 58

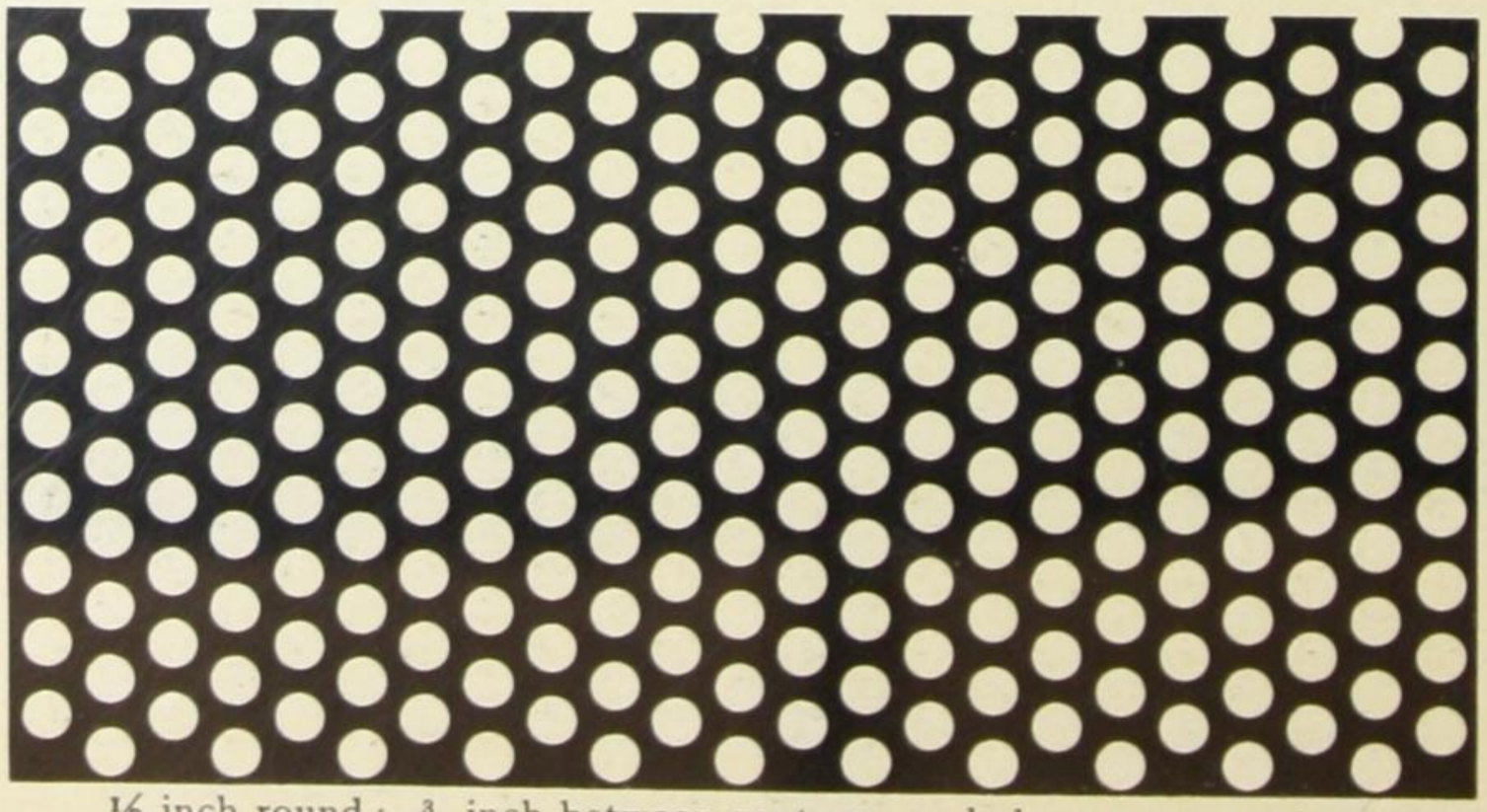
STANDARD PERFORATED SCREEN PLATES



$\frac{3}{32}$ inch round; $\frac{3}{16}$ inch between centers; 32 holes per square inch



$\frac{3}{32}$ inch round; $\frac{7}{32}$ inch between centers; 24 holes per square inch



$\frac{1}{8}$ inch round; $\frac{3}{16}$ inch between centers; 31 holes per square inch

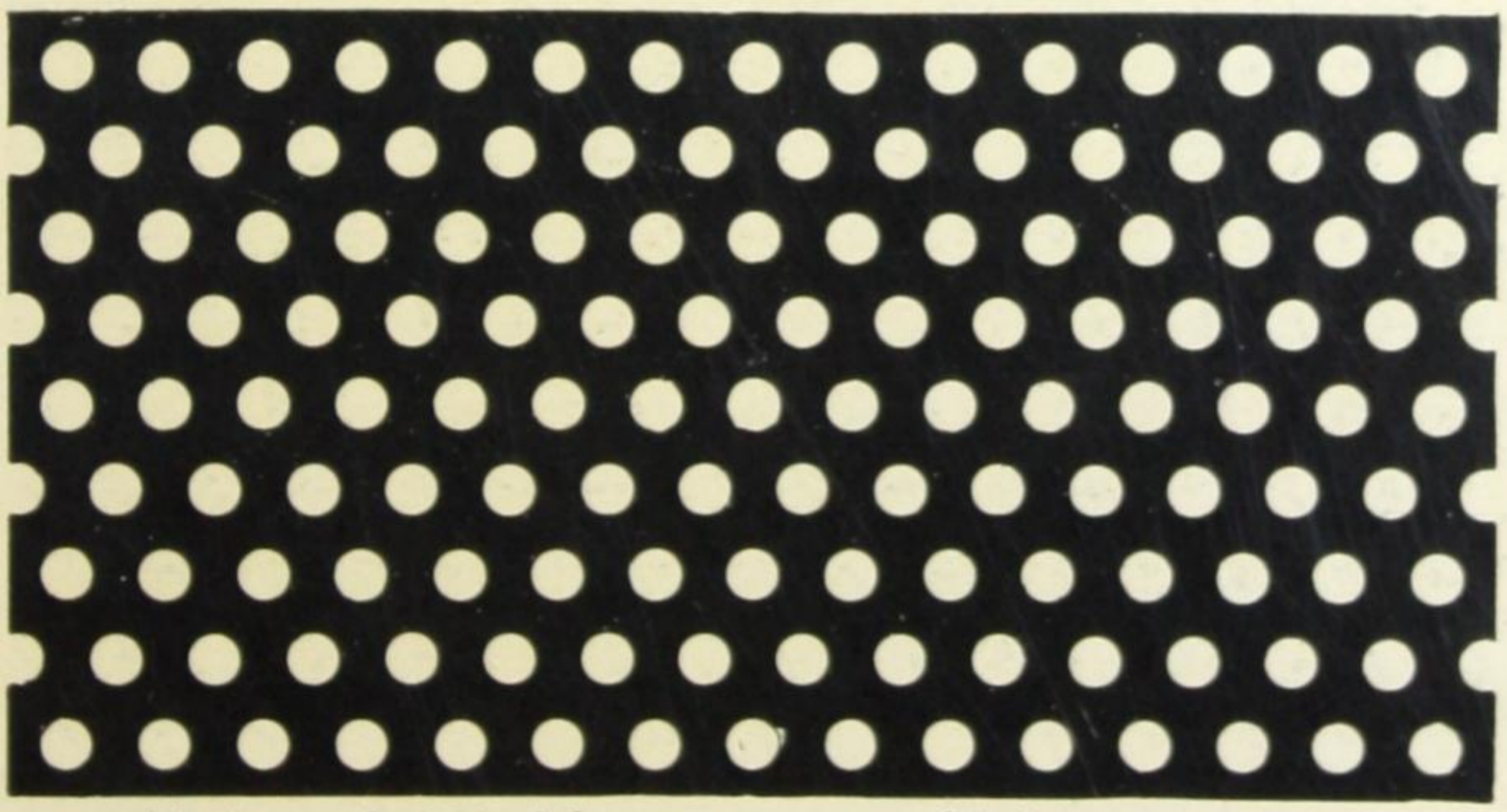
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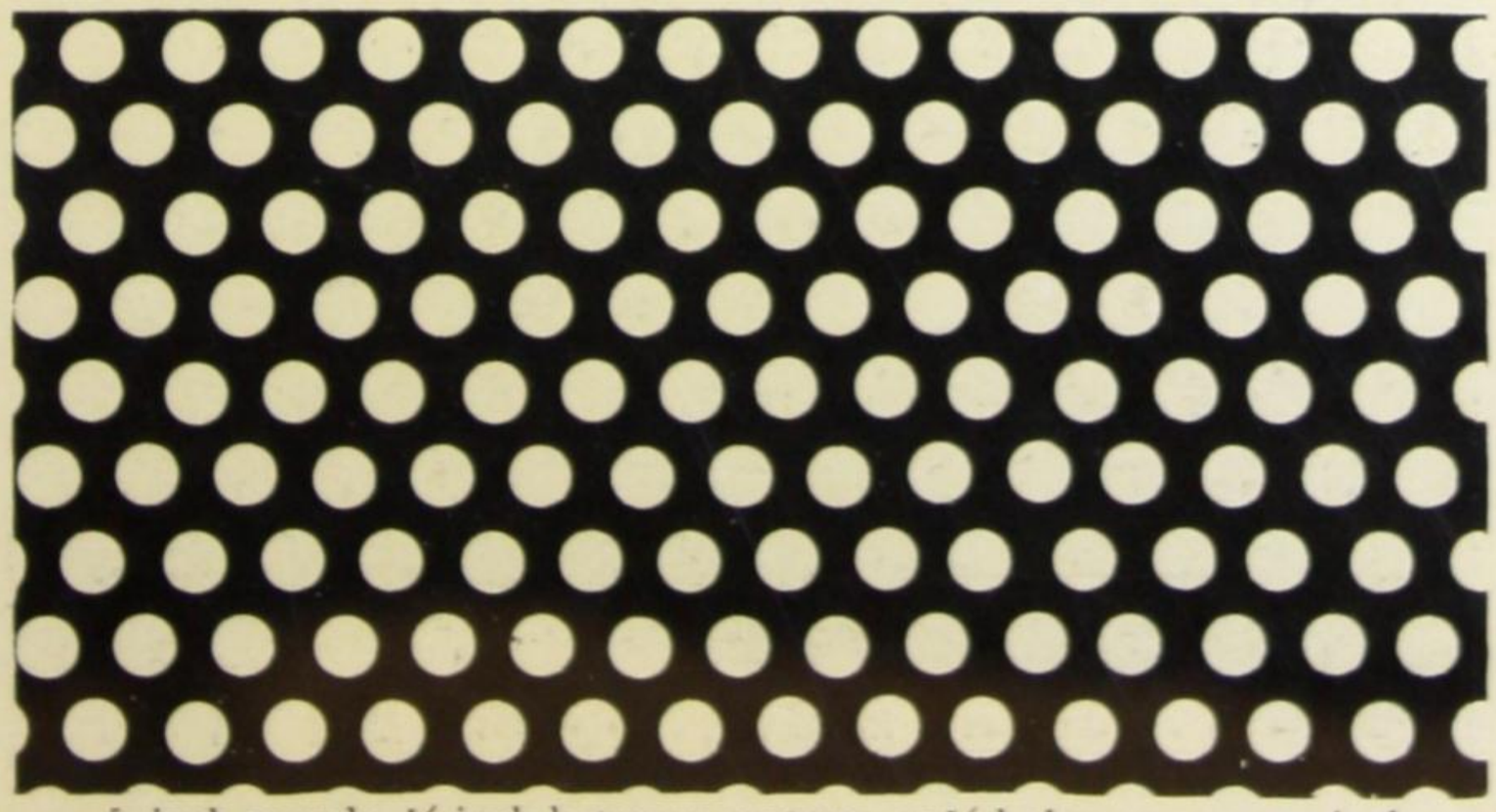
STANDARD PERFORATED SCREEN PLATES



⅛ inch round; $\frac{7}{32}$ inch between centers; 24½ holes per square inch



⅛ inch round; ¼ inch between centers; 18 holes per square inch

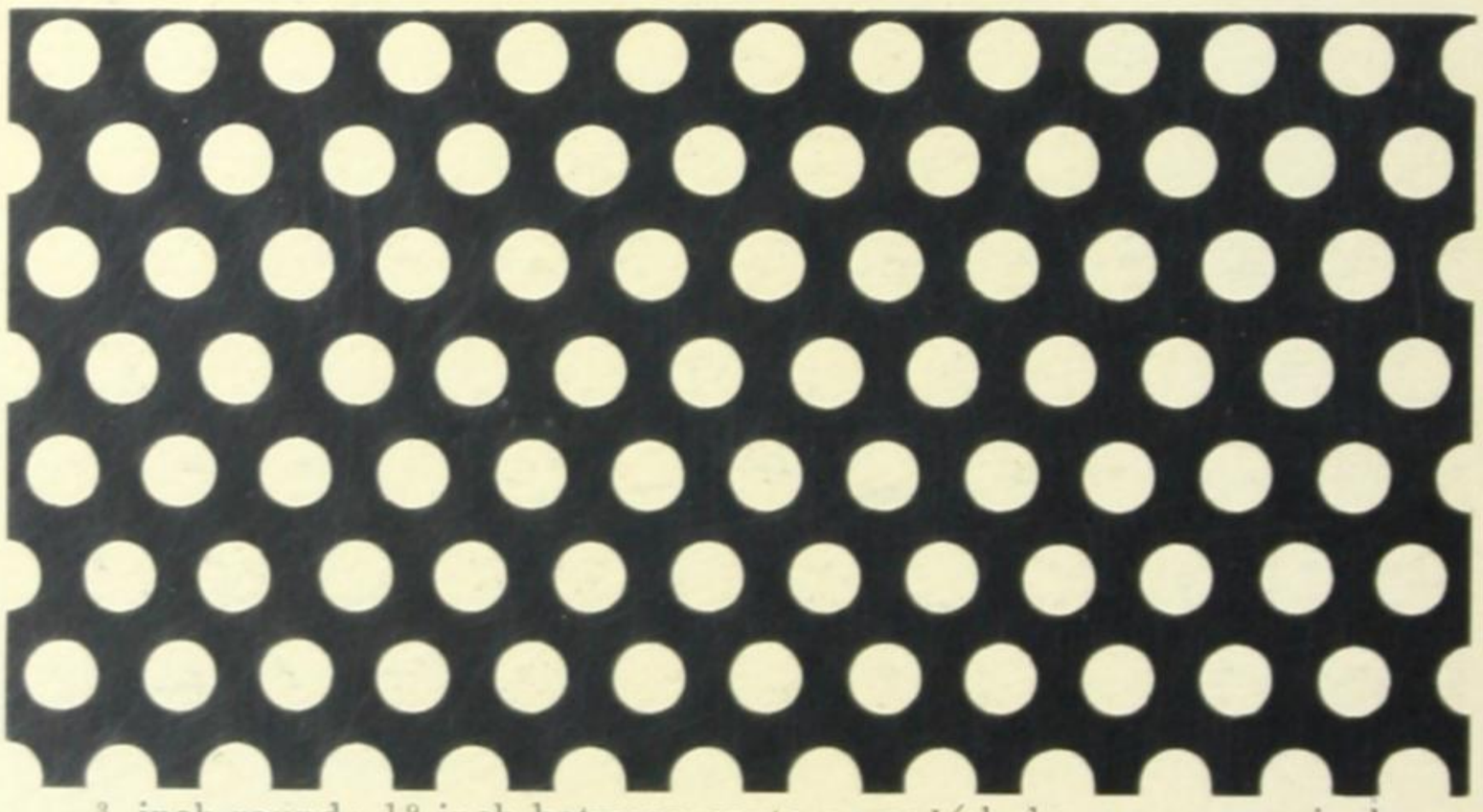


$\frac{5}{32}$ inch round; ¼ inch between centers; 17½ holes per square inch

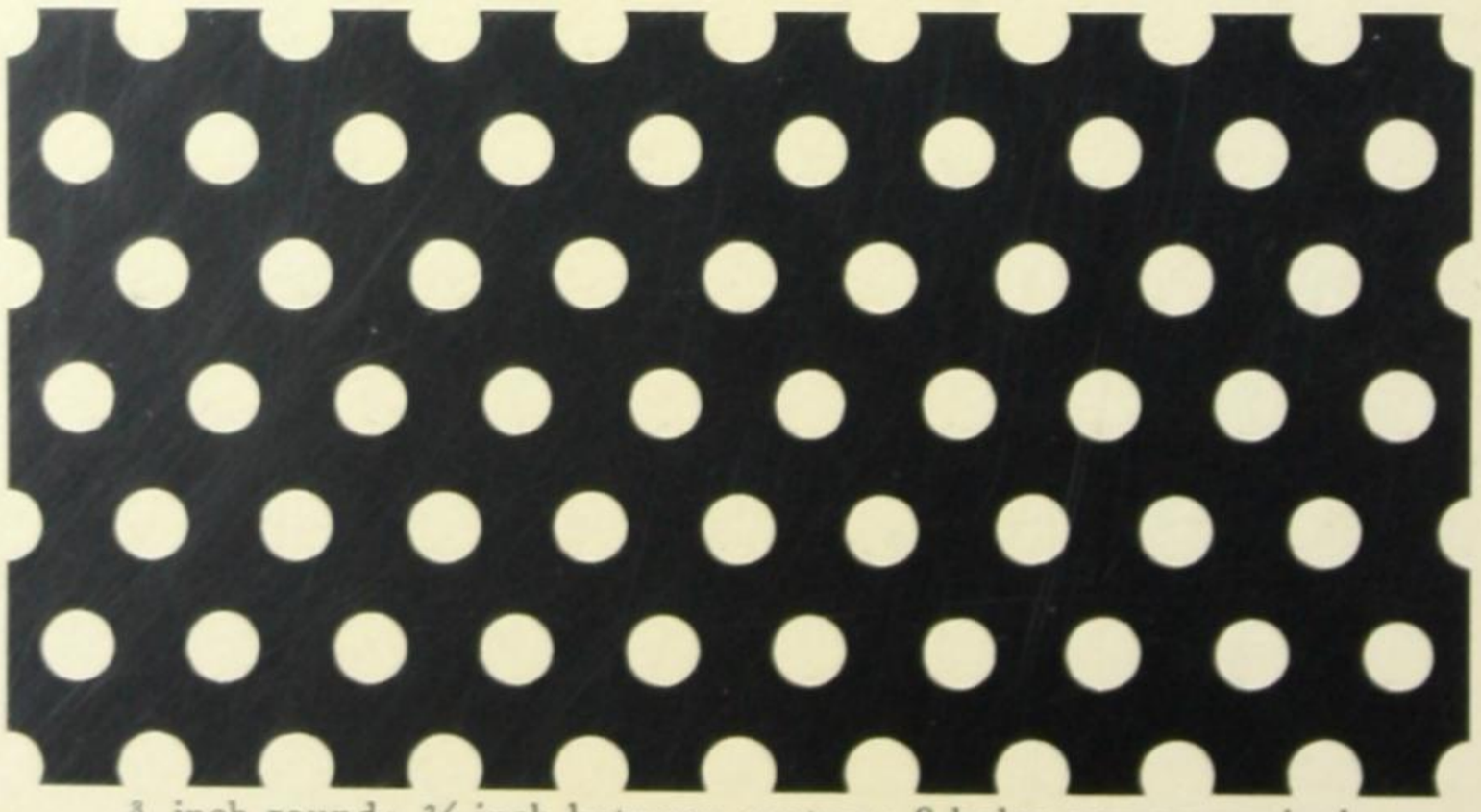
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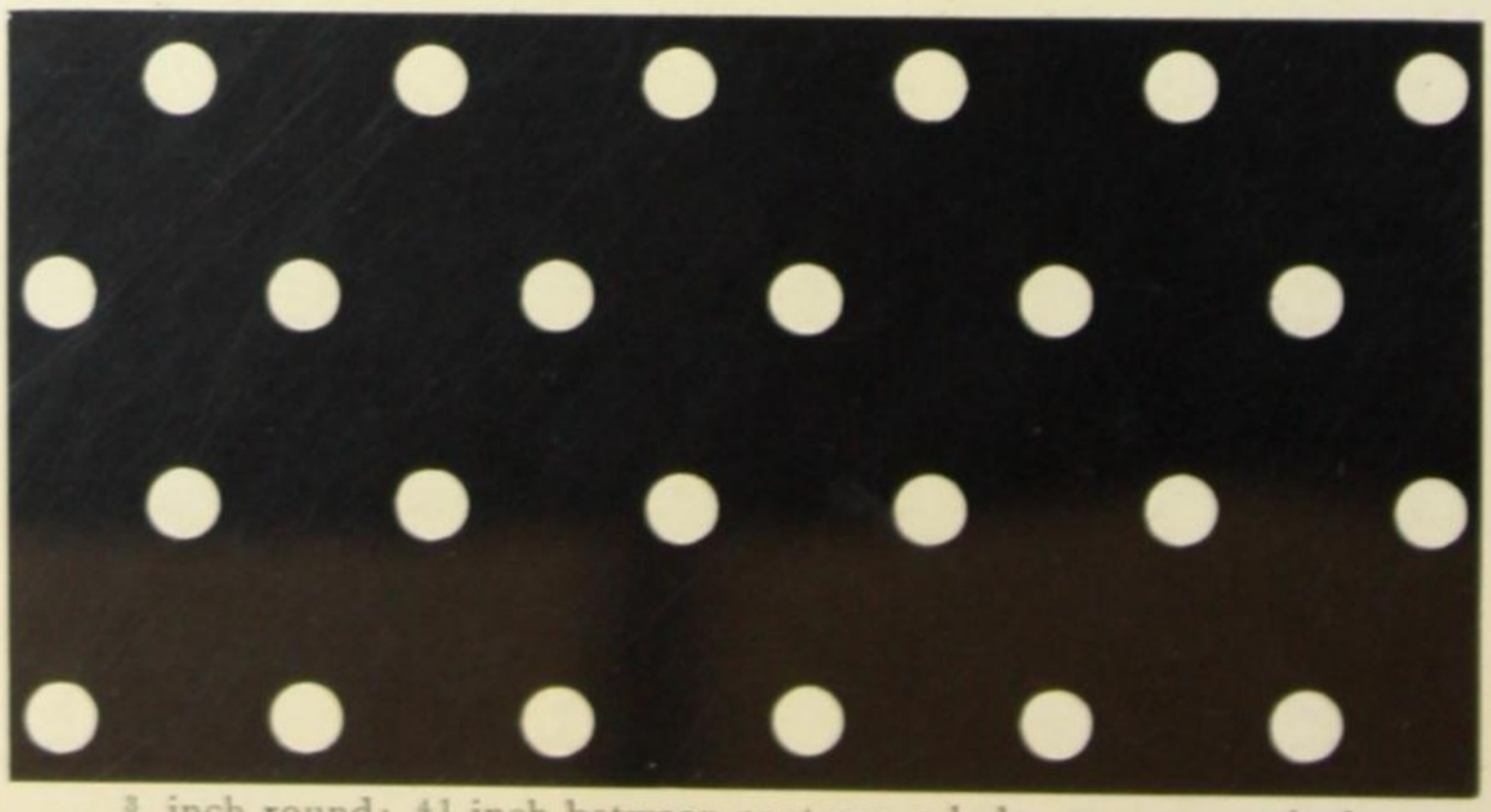
STANDARD PERFORATED SCREEN PLATES



$\frac{3}{16}$ inch round; $\frac{19}{64}$ inch between centers; 13⅓ holes per square inch



$\frac{3}{16}$ inch round; ⅜ inch between centers; 8 holes per square inch



$\frac{3}{16}$ inch round; $\frac{41}{64}$ inch between centers; 3 holes per square inch

Reproduction of Perforations

For complete list of Perforations and Centers, see pages 56 to 58

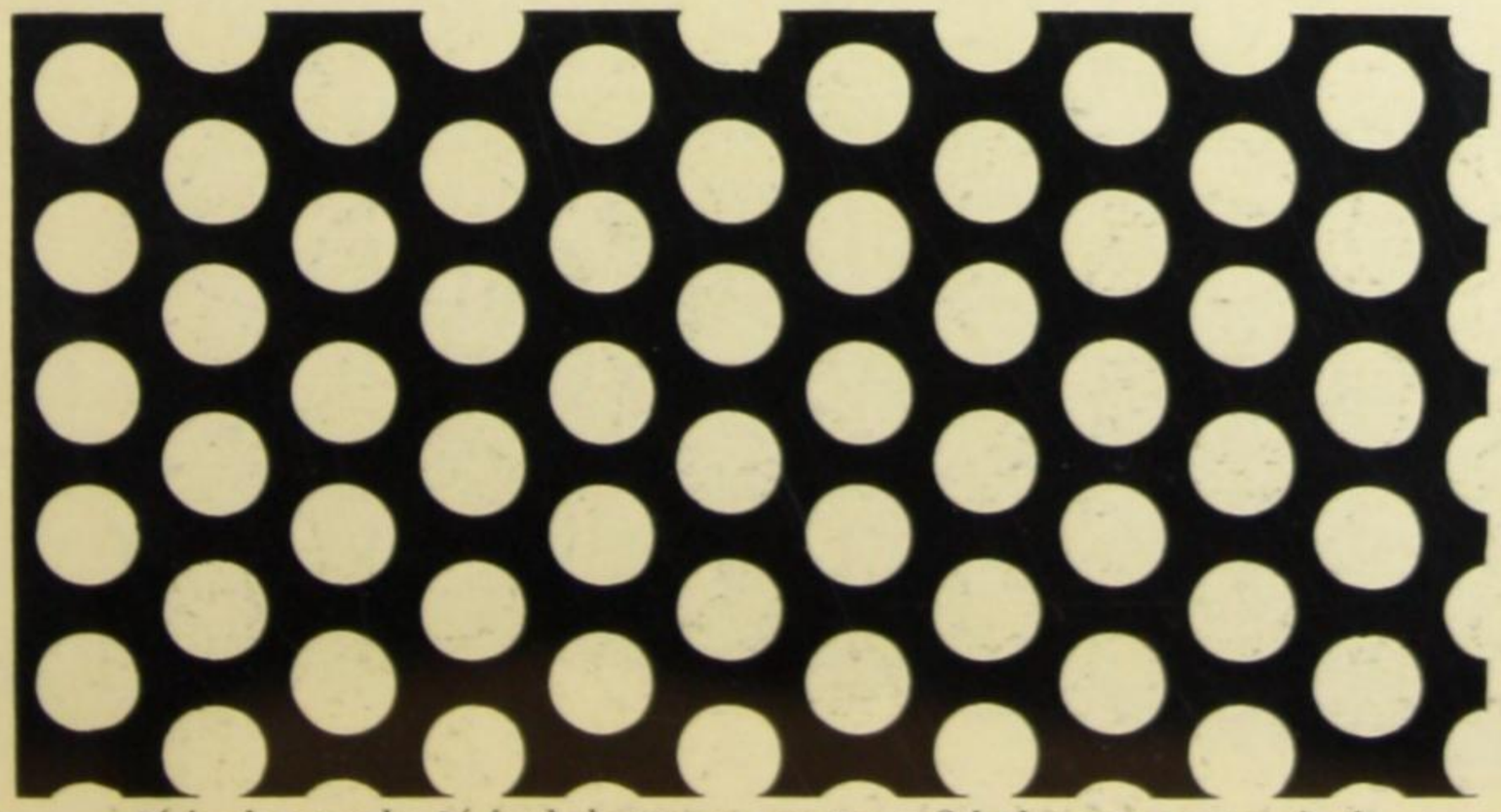
STANDARD PERFORATED SCREEN PLATES



$\frac{7}{32}$ inch round; $\frac{11}{32}$ inch between centers; 9 holes per square inch



$\frac{7}{32}$ inch round; $\frac{3}{8}$ inch between centers; 8 holes per square inch

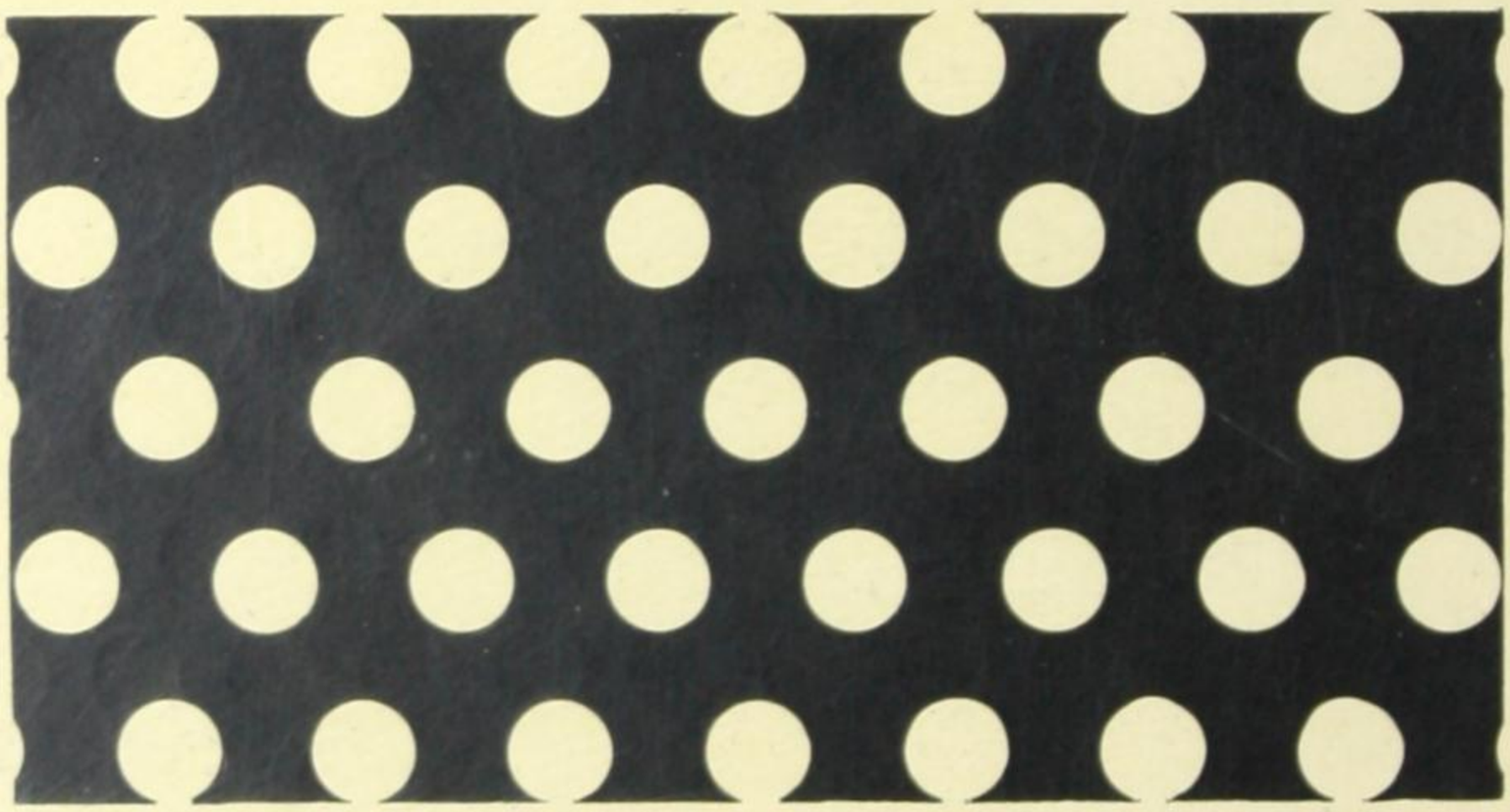


$\frac{1}{4}$ inch round; $\frac{3}{8}$ inch between centers; 8 holes per square inch

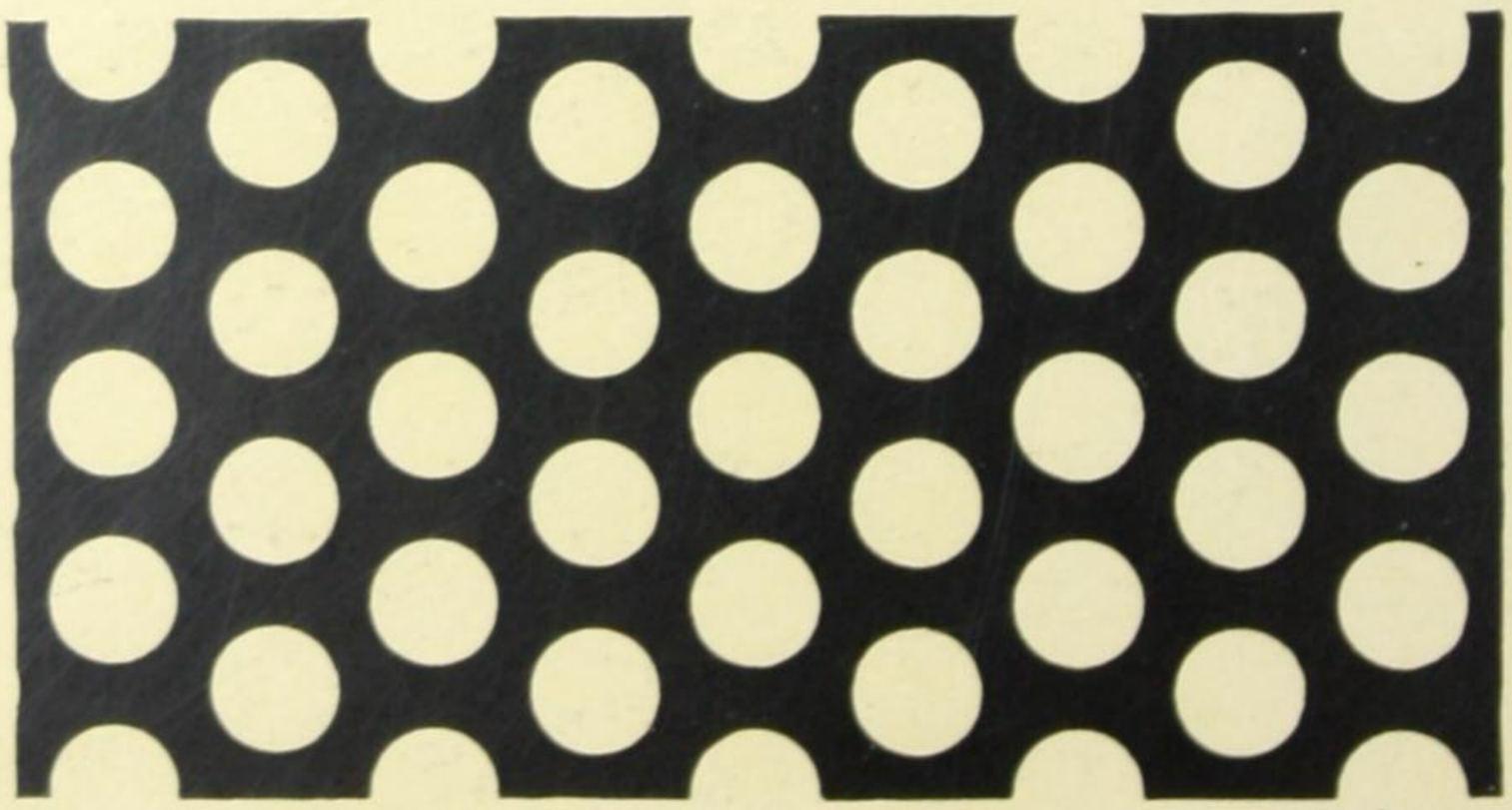
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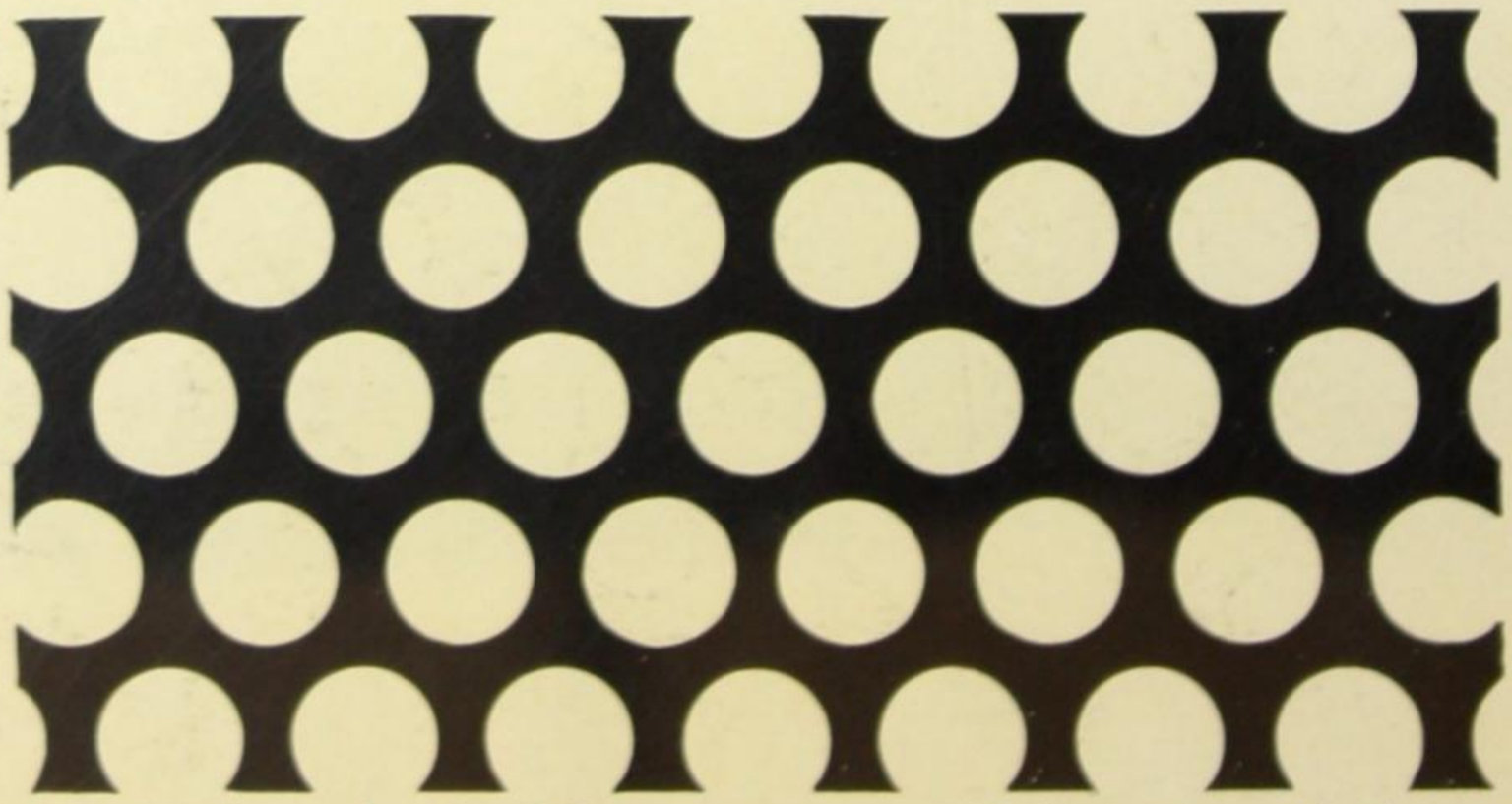
STANDARD PERFORATED SCREEN PLATES



¼ inch round; ½ inch between centers; 5 holes per square inch



$\frac{5}{16}$ inch round; $\frac{15}{32}$ inch between centers; 5 holes per square inch

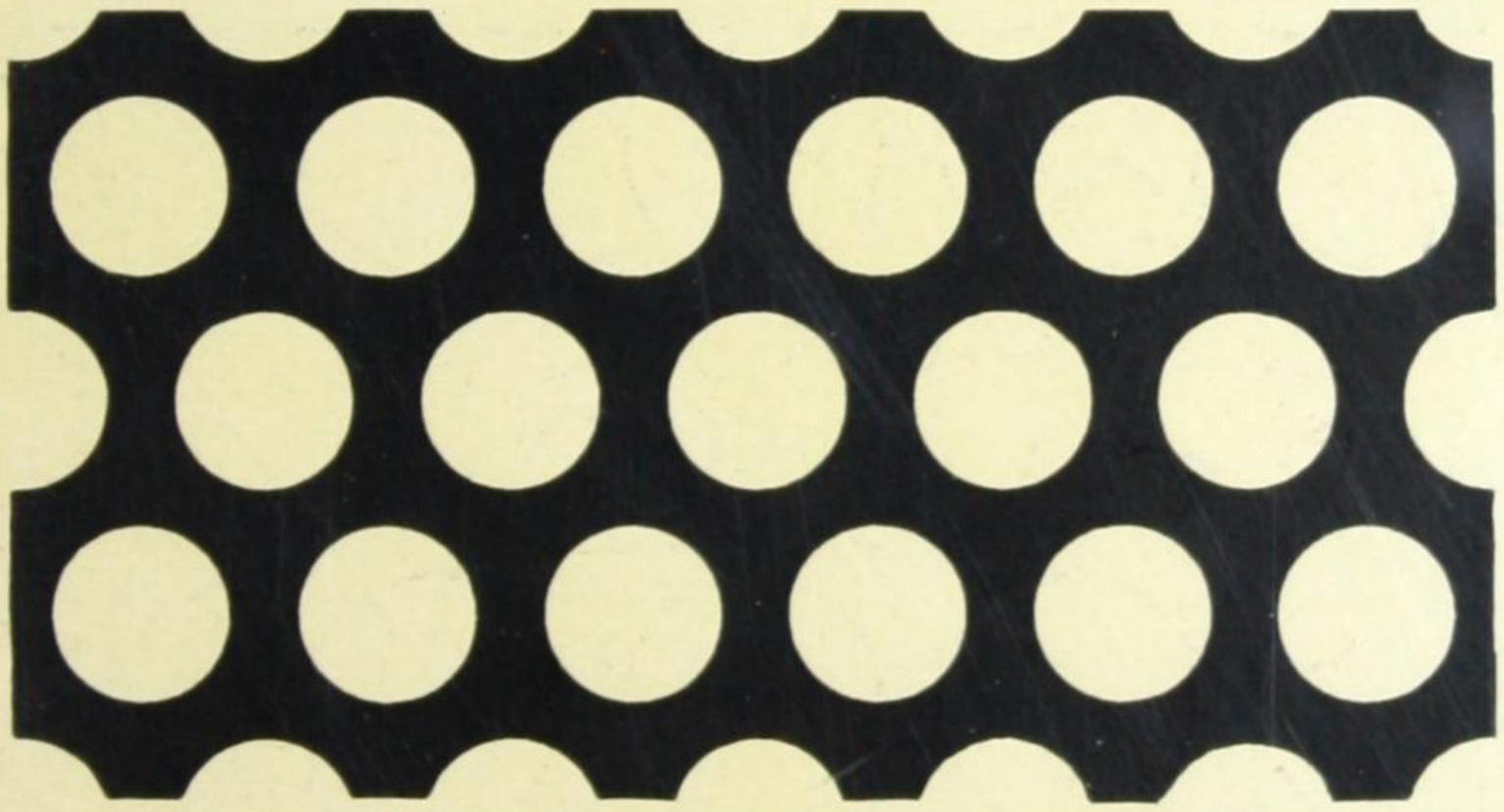


⅜ inch round; ½ inch between centers; 3½ holes per square inch

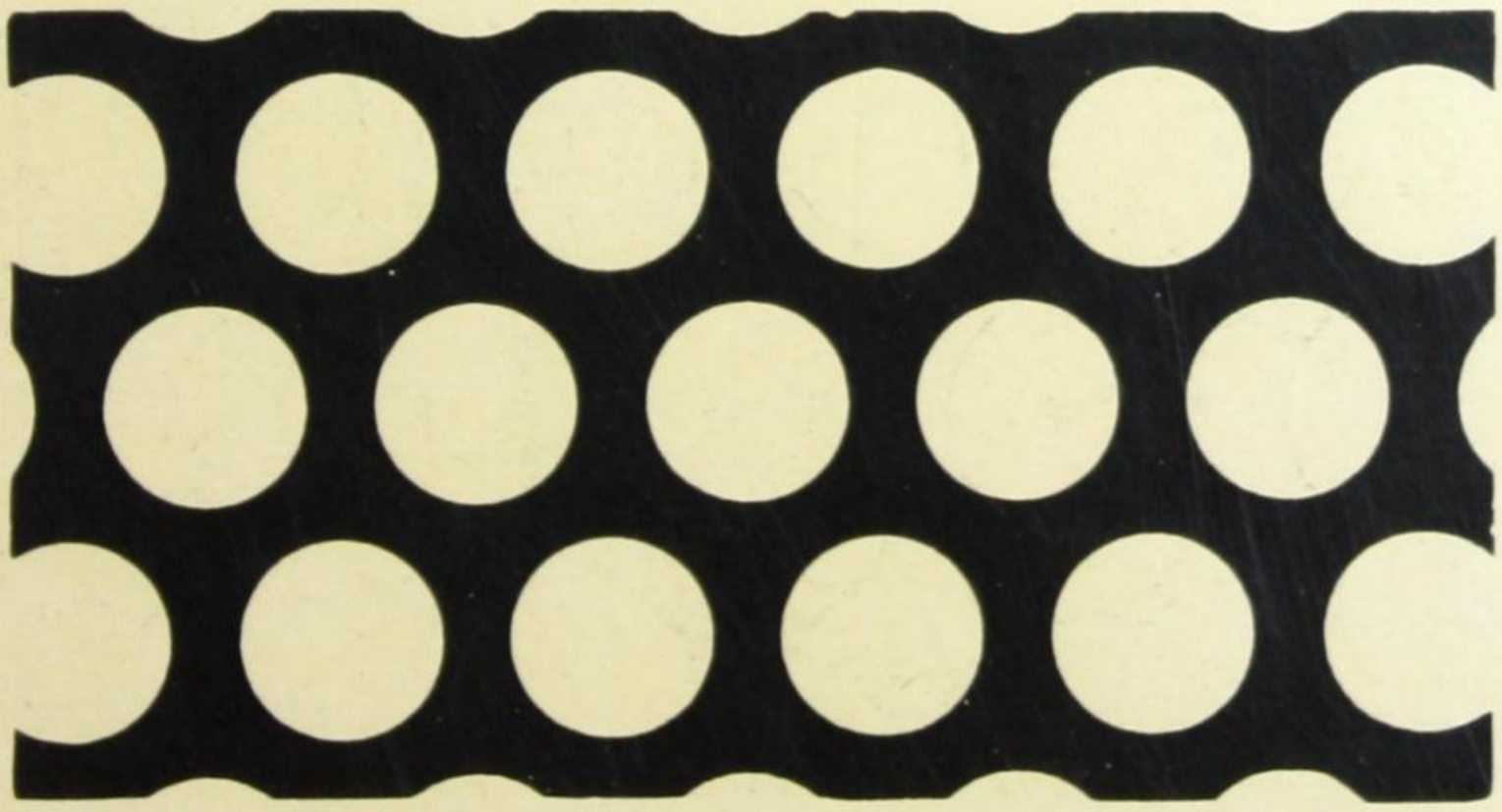
Reproduction of Perforations

For complete list of Perforations and Centers, see pages 56 to 58

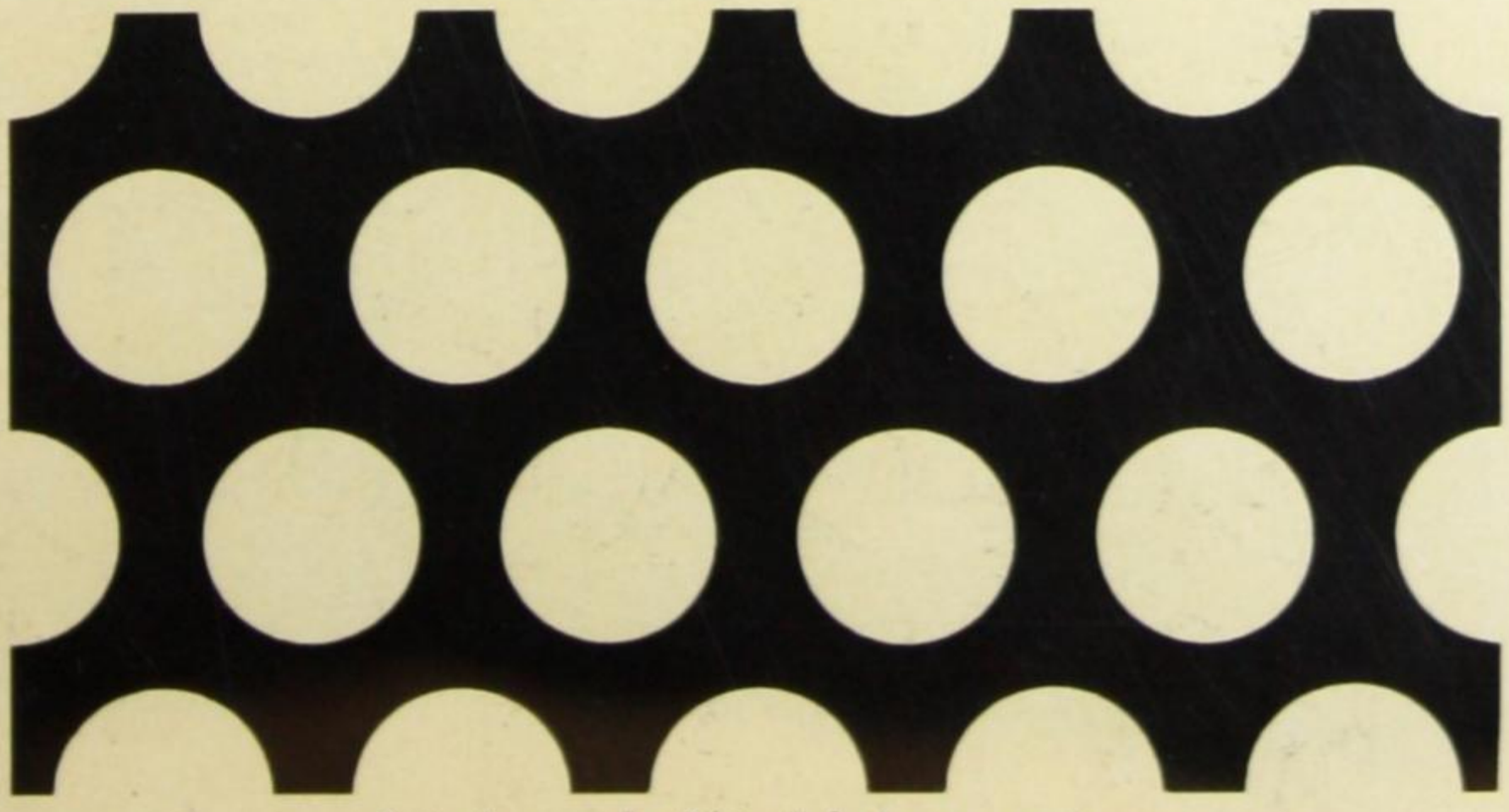
STANDARD PERFORATED SCREEN PLATES



$\frac{7}{16}$ inch round; $\frac{5}{8}$ inch between centers; 3 holes per square inch



$\frac{1}{2}$ inch round; $\frac{11}{16}$ inch between centers; 2¼ holes per square inch

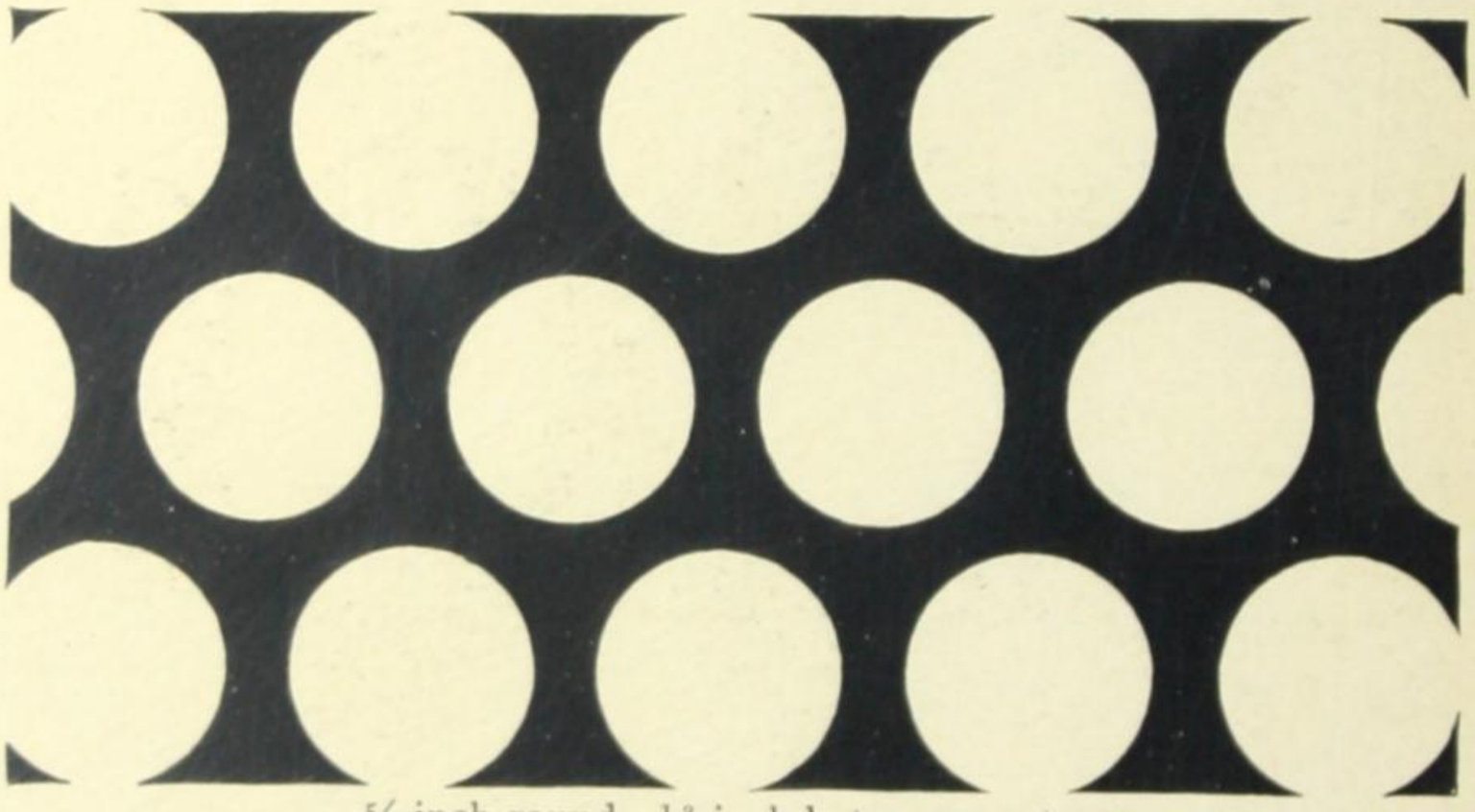


$\frac{9}{16}$ inch round; ¾ inch between centers

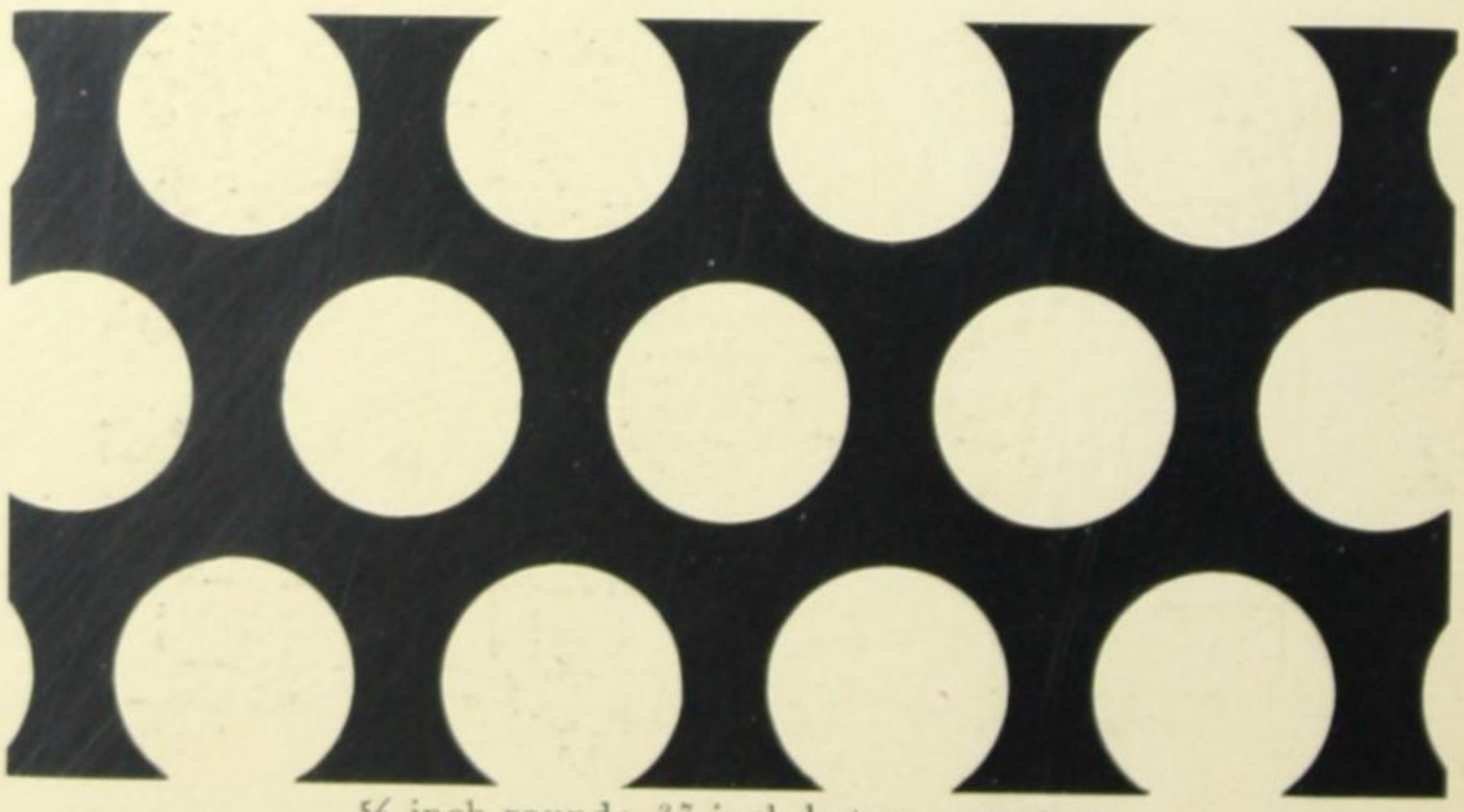
Reproduction of Perforations

For complete list of Perforations and Centers, see pages 56 to 58

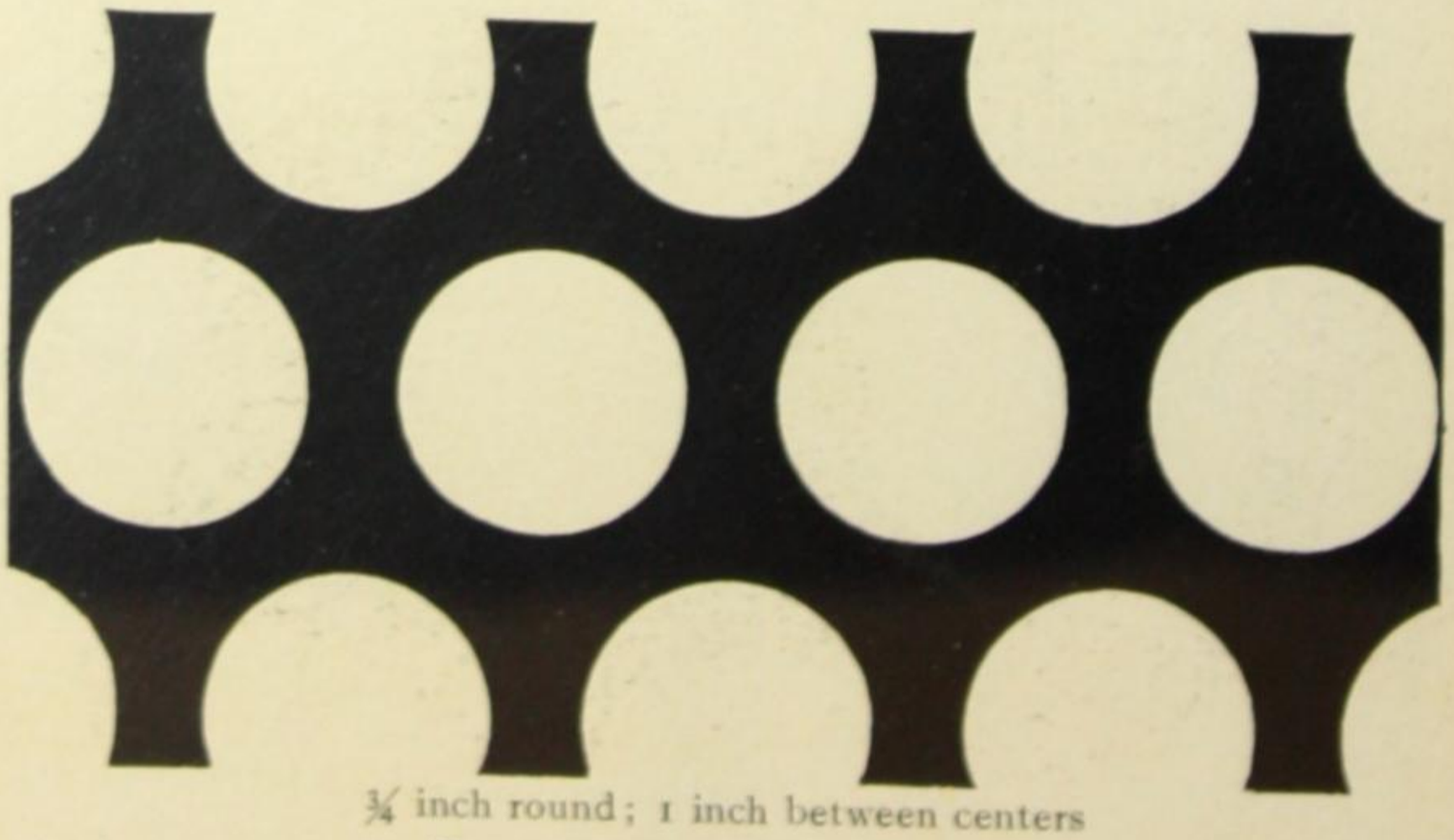
STANDARD PERFORATED SCREEN PLATES



$\frac{5}{8}$ inch round; $\frac{13}{16}$ inch between centers



$\frac{5}{8}$ inch round; $\frac{27}{32}$ inch between centers

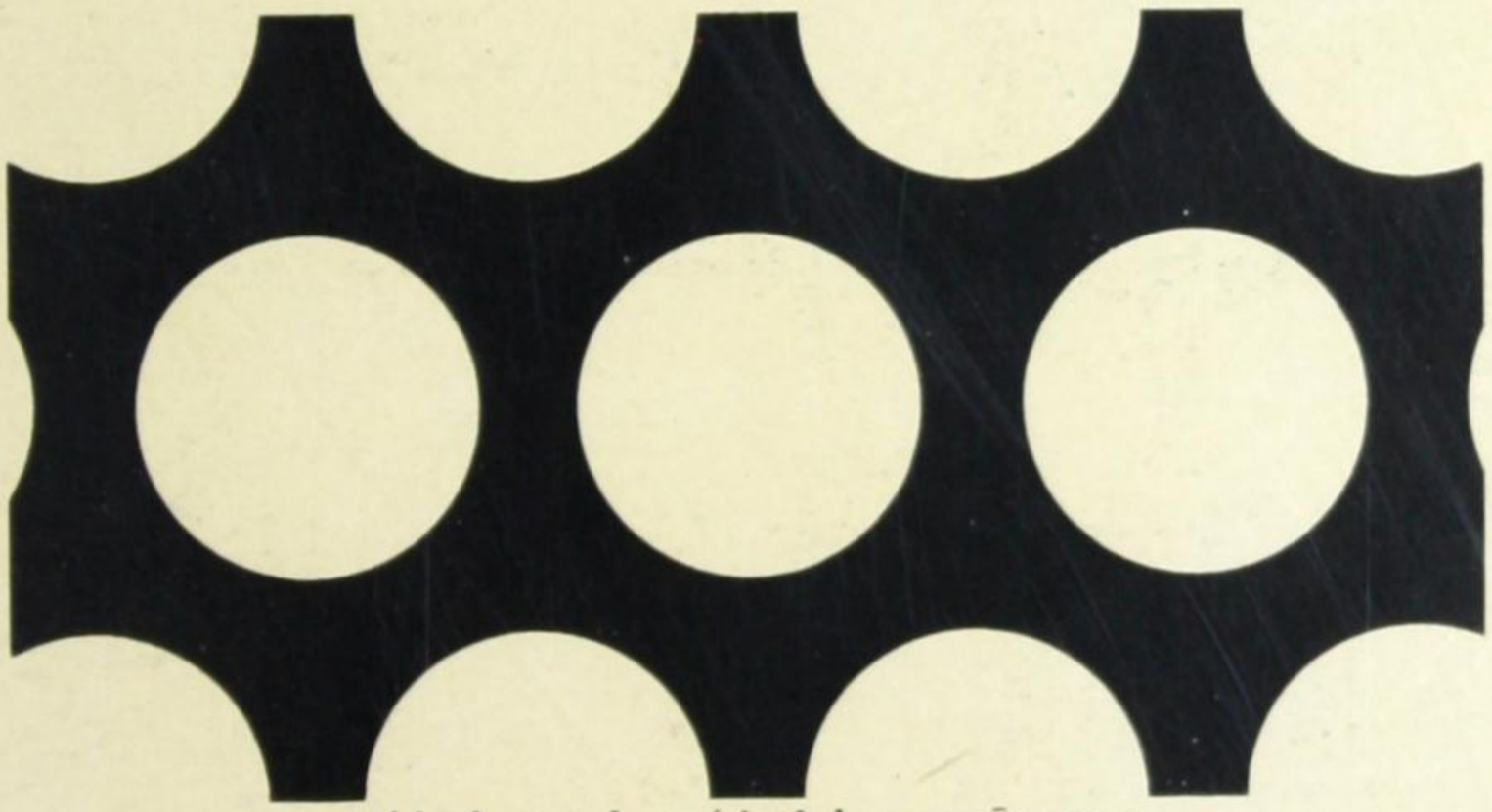


$\frac{3}{4}$ inch round; 1 inch between centers

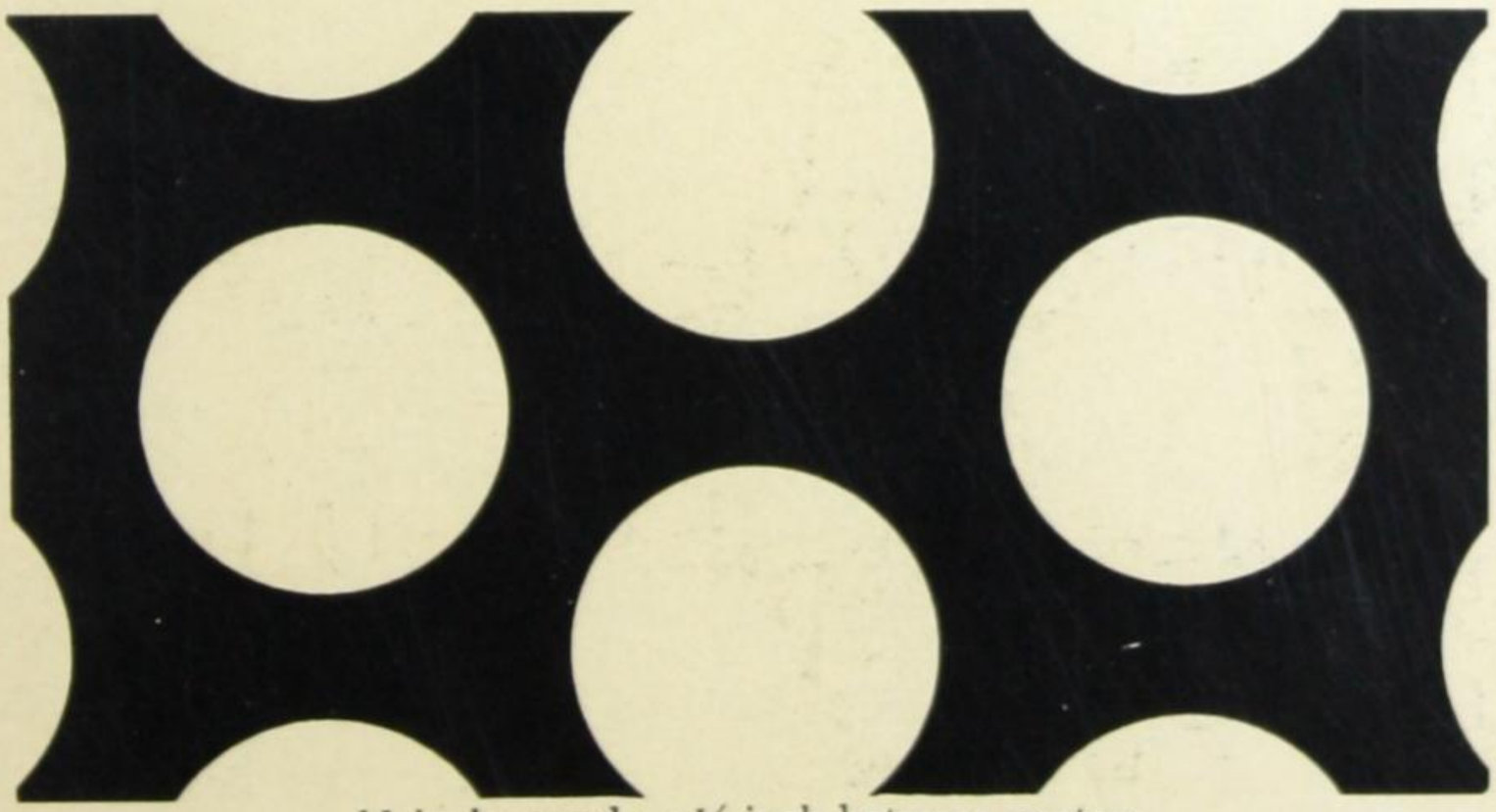
Reproduction of Perforations

For complete list of Perforations and Centers, see pages 56 to 58

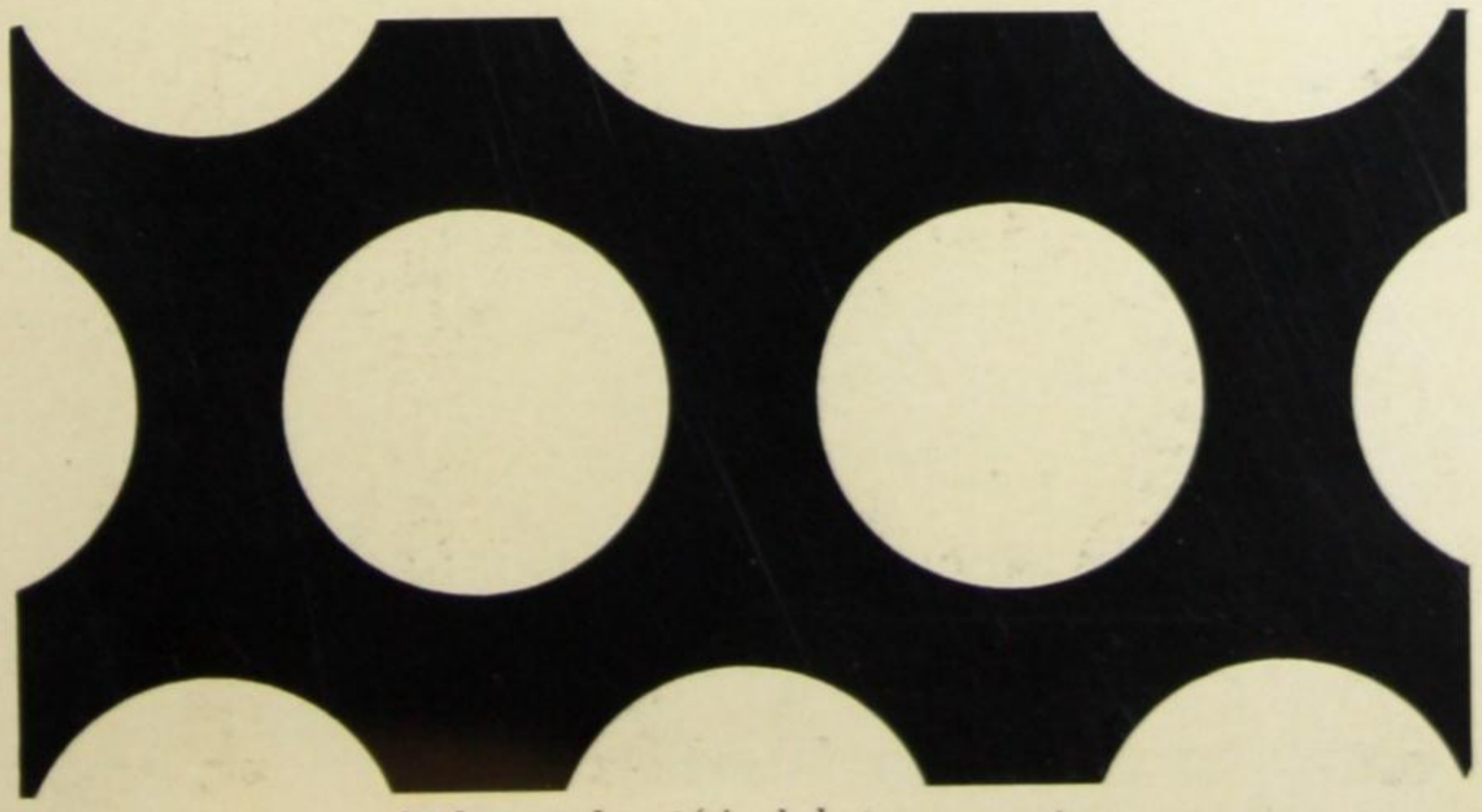
STANDARD PERFORATED SCREEN PLATES



⅞ inch round; 1⅛ inch between centers



$\frac{15}{16}$ inch round; 1¼ inch between centers

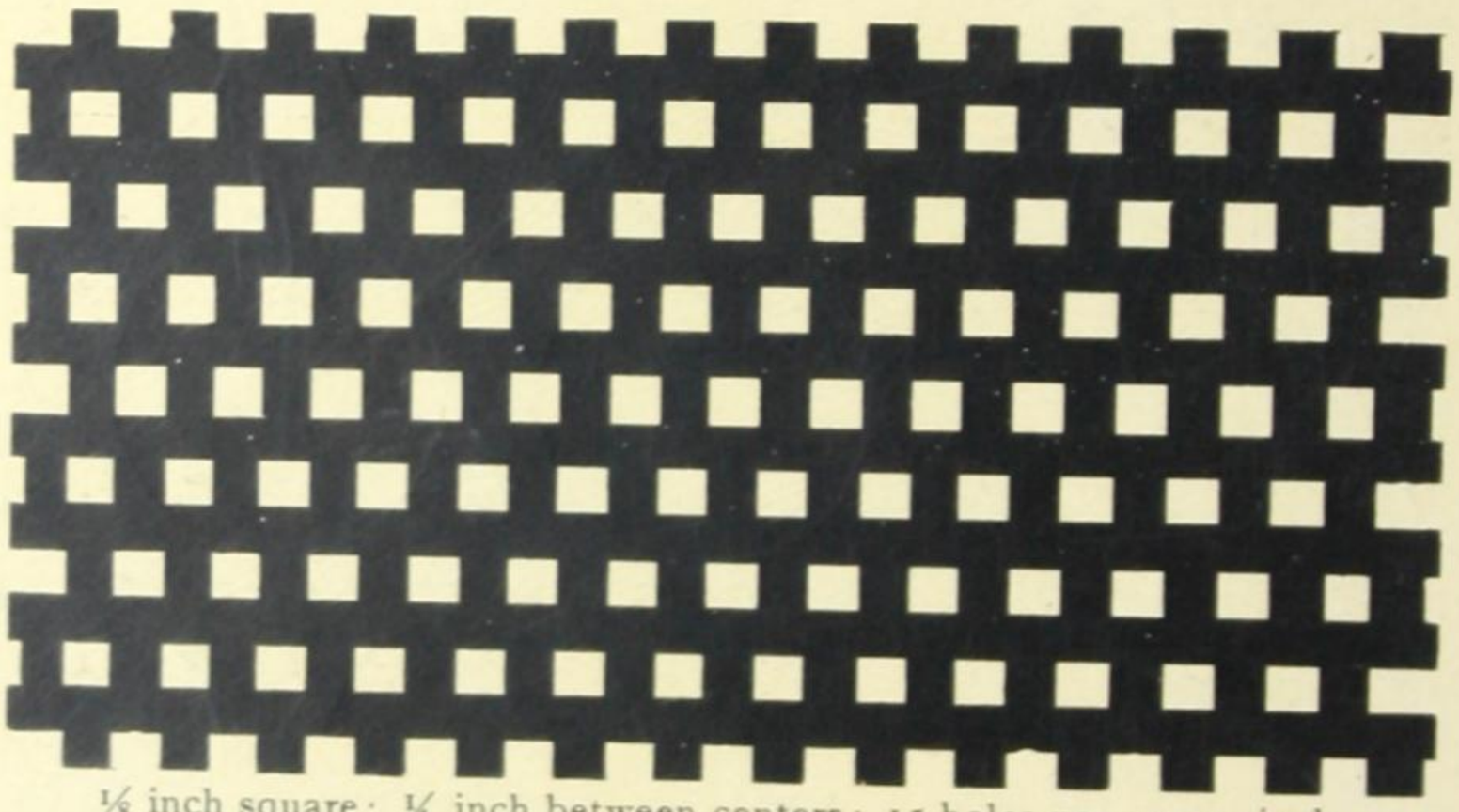


1 inch round; 1⅜ inch between centers

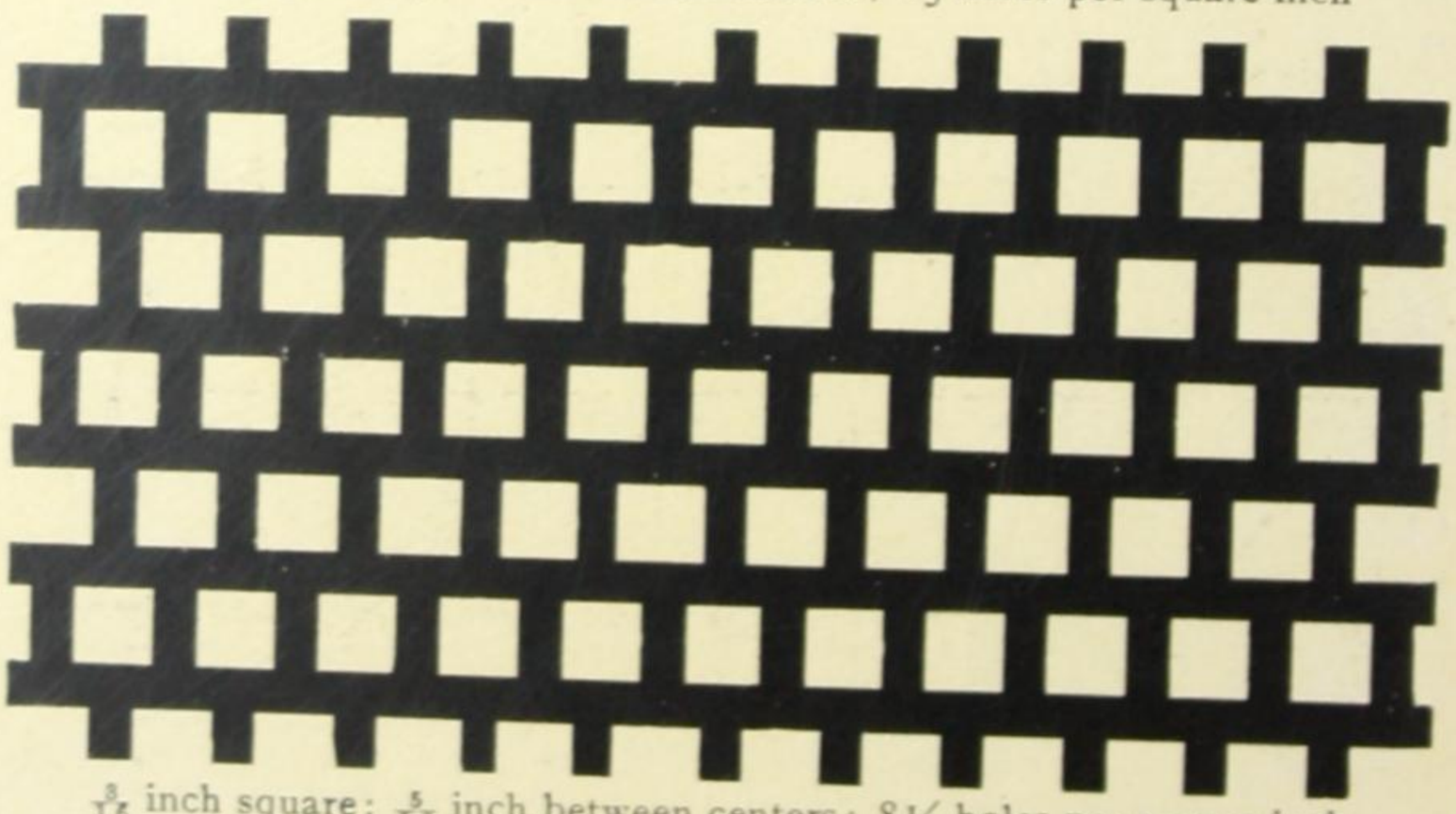
Reproduction of Perforations

For complete list of Perforations and Centers, see pages 56 to 58

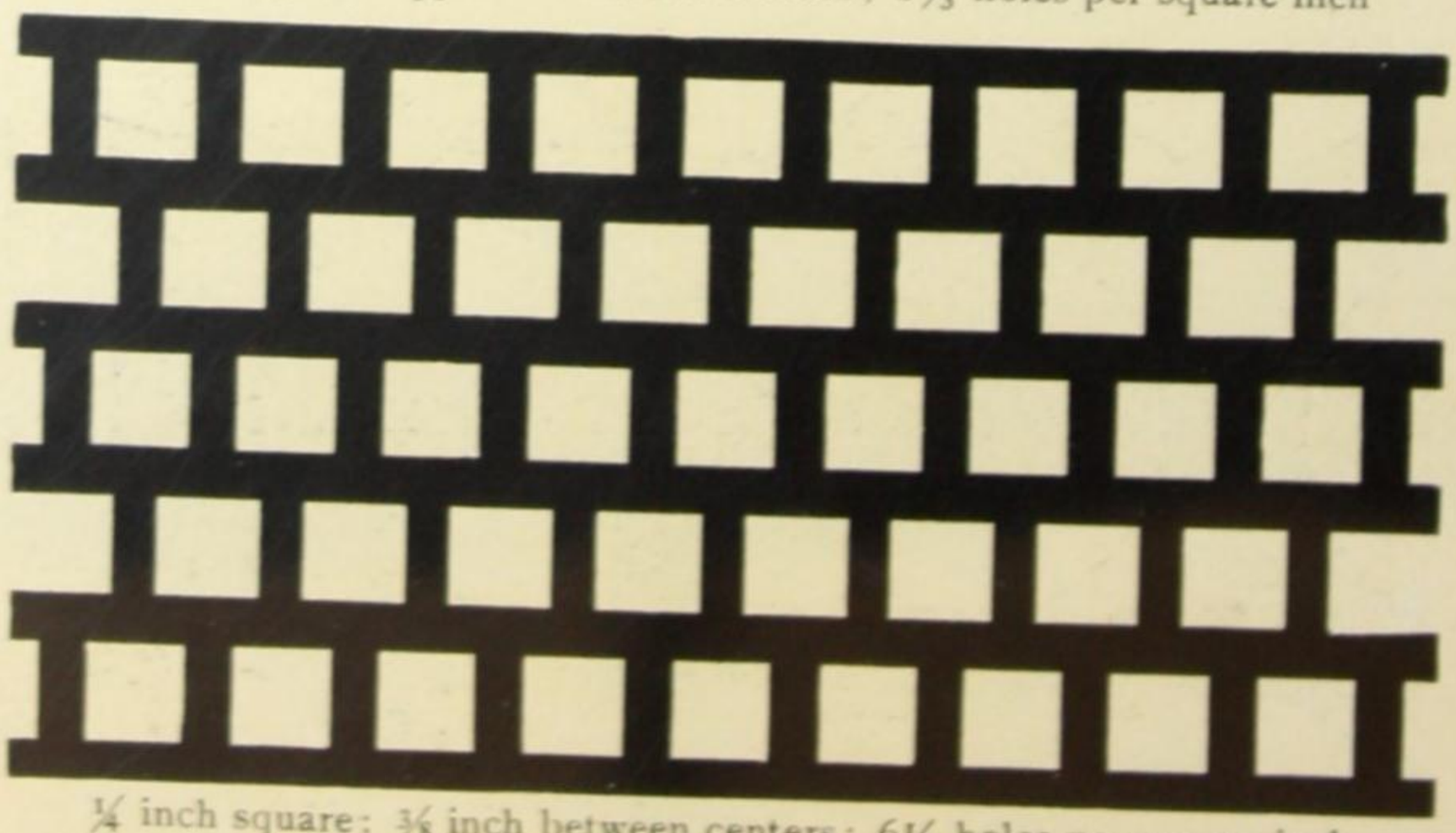
STANDARD PERFORATED SCREEN PLATES



⅛ inch square; ¼ inch between centers; 15 holes per square inch



$\frac{3}{16}$ inch square; $\frac{5}{16}$ inch between centers; 8⅓ holes per square inch

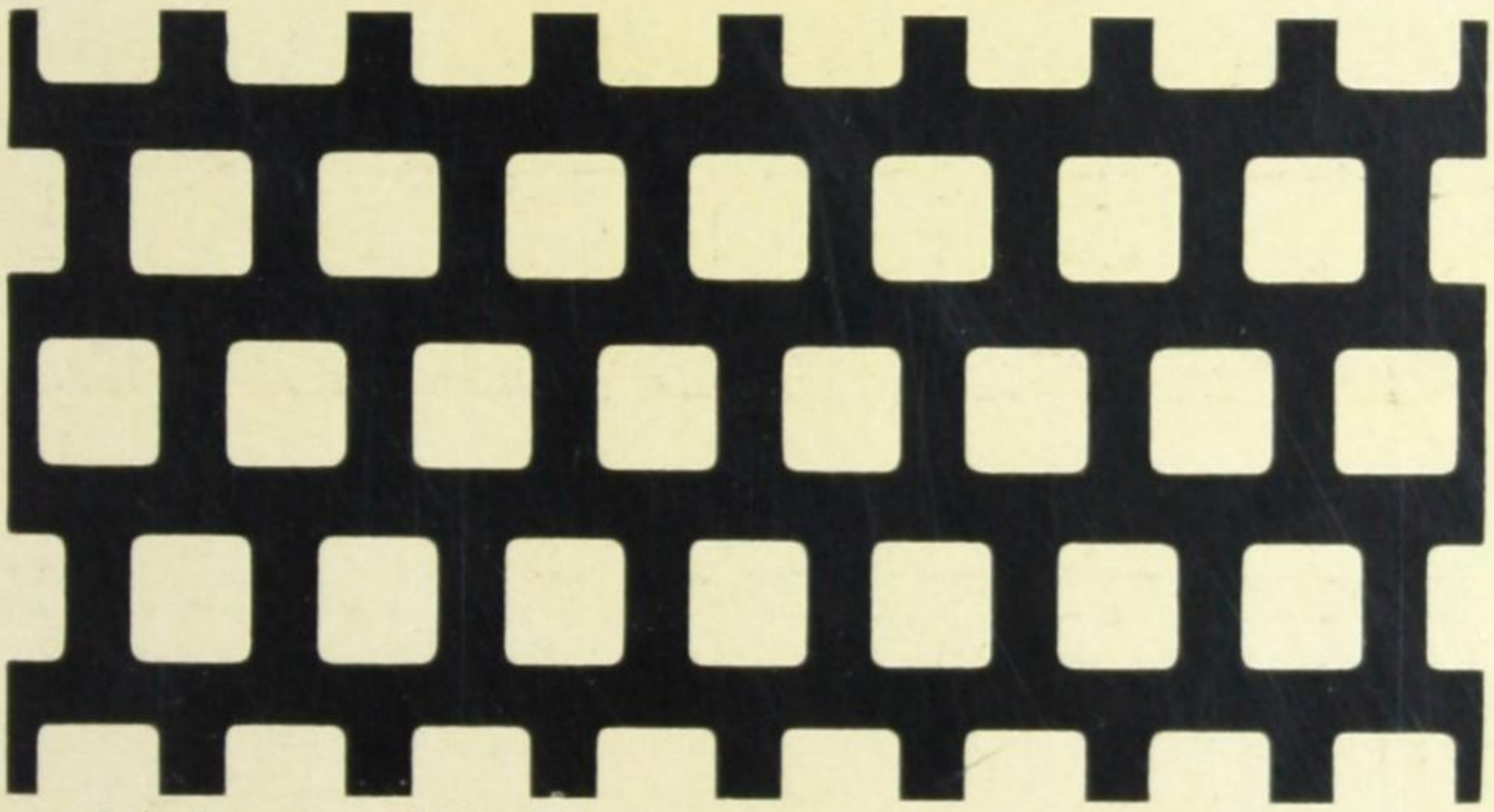


¼ inch square; ⅜ inch between centers; 6½ holes per square inch

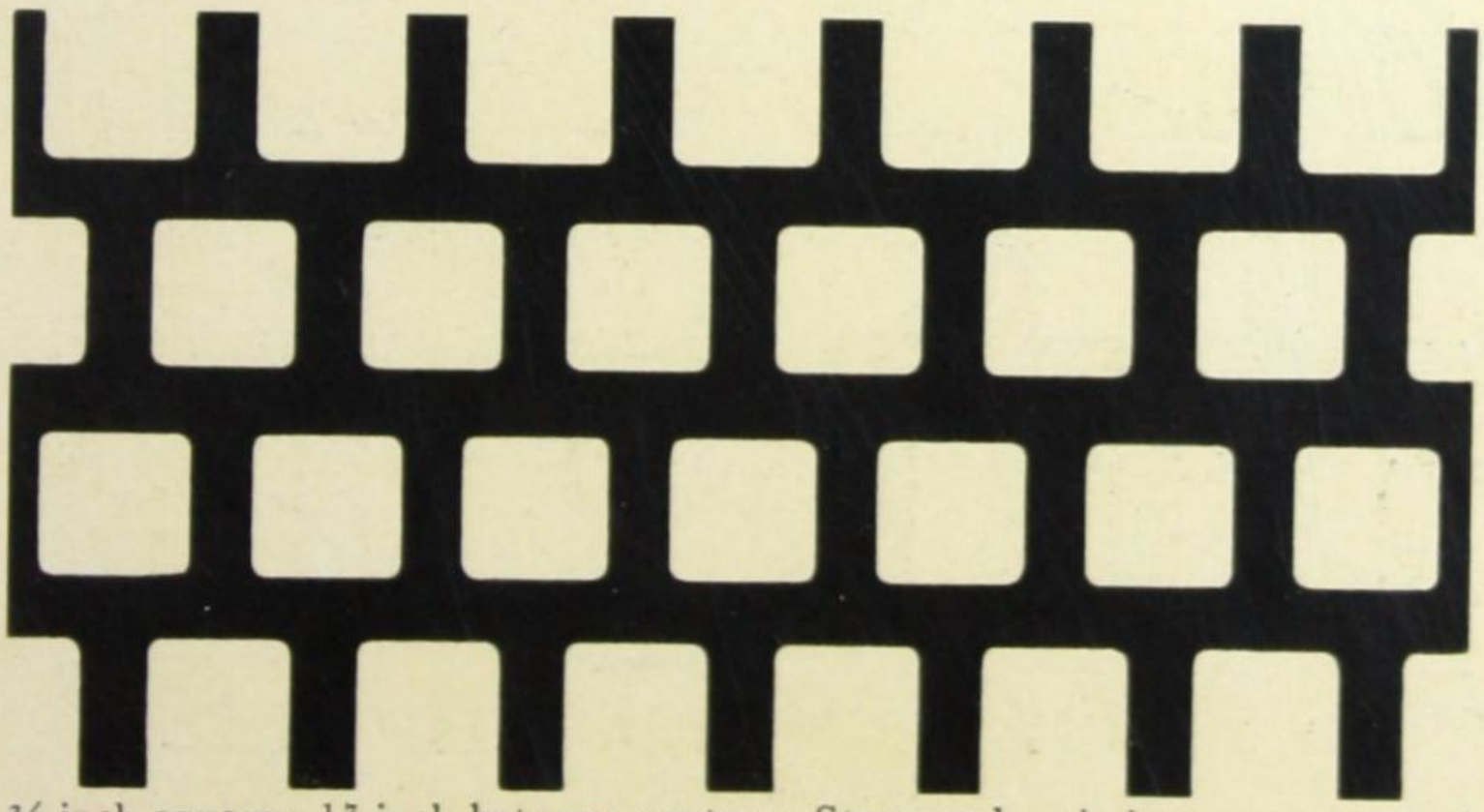
Reproduction of Perforations

For complete list of Perforations and Centers, see pages 59 and 60

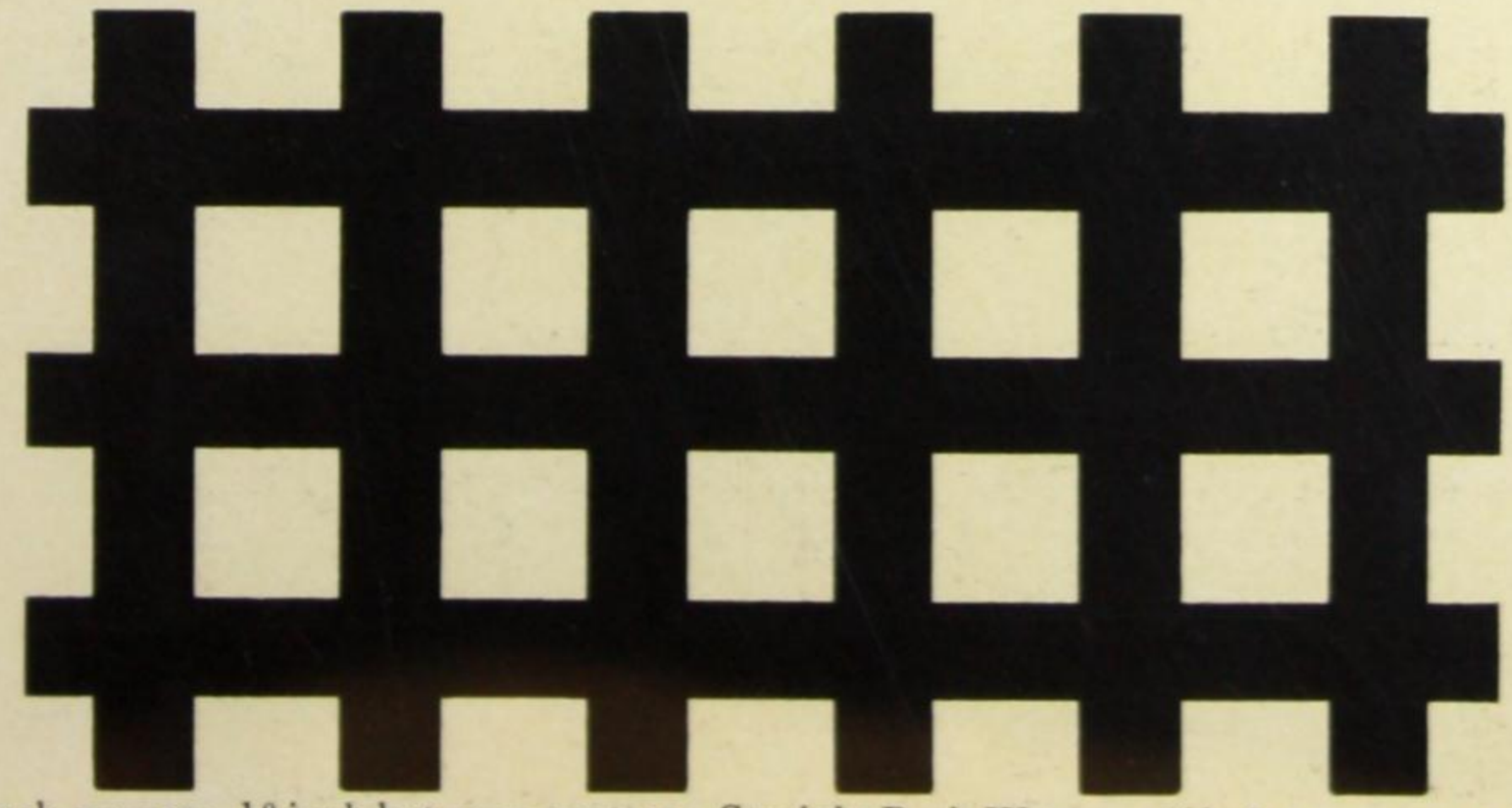
STANDARD PERFORATED SCREEN PLATES



$\frac{5}{16}$ inch square; $\frac{15}{32}$ inch between centers; 4½ holes per square inch



⅜ inch square; $\frac{17}{32}$ inch between centers; Staggered; 3 holes per square inch

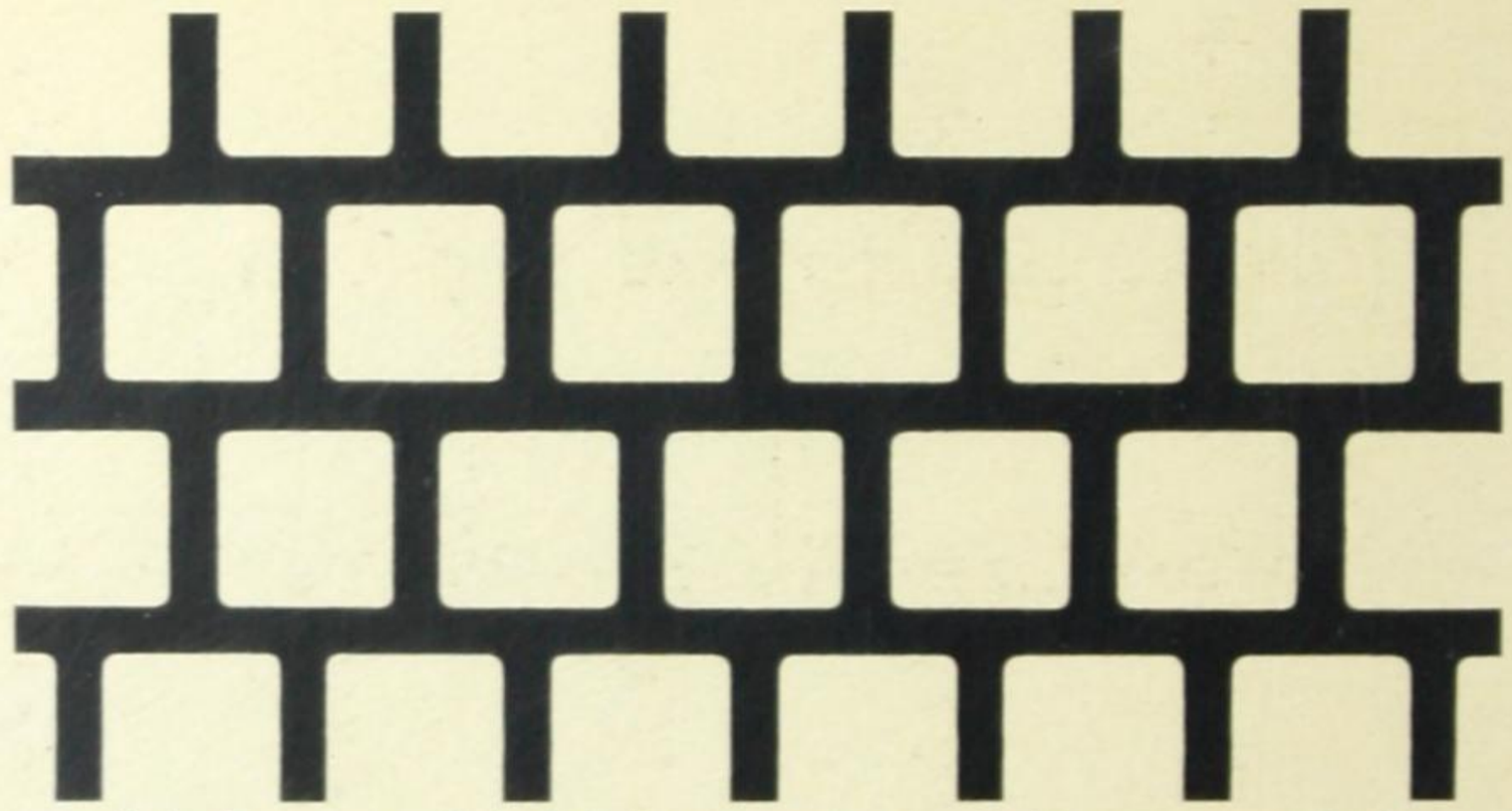


⅜ inch square; $\frac{19}{32}$ inch between centers; Straight Both Ways; 2½ holes per square inch

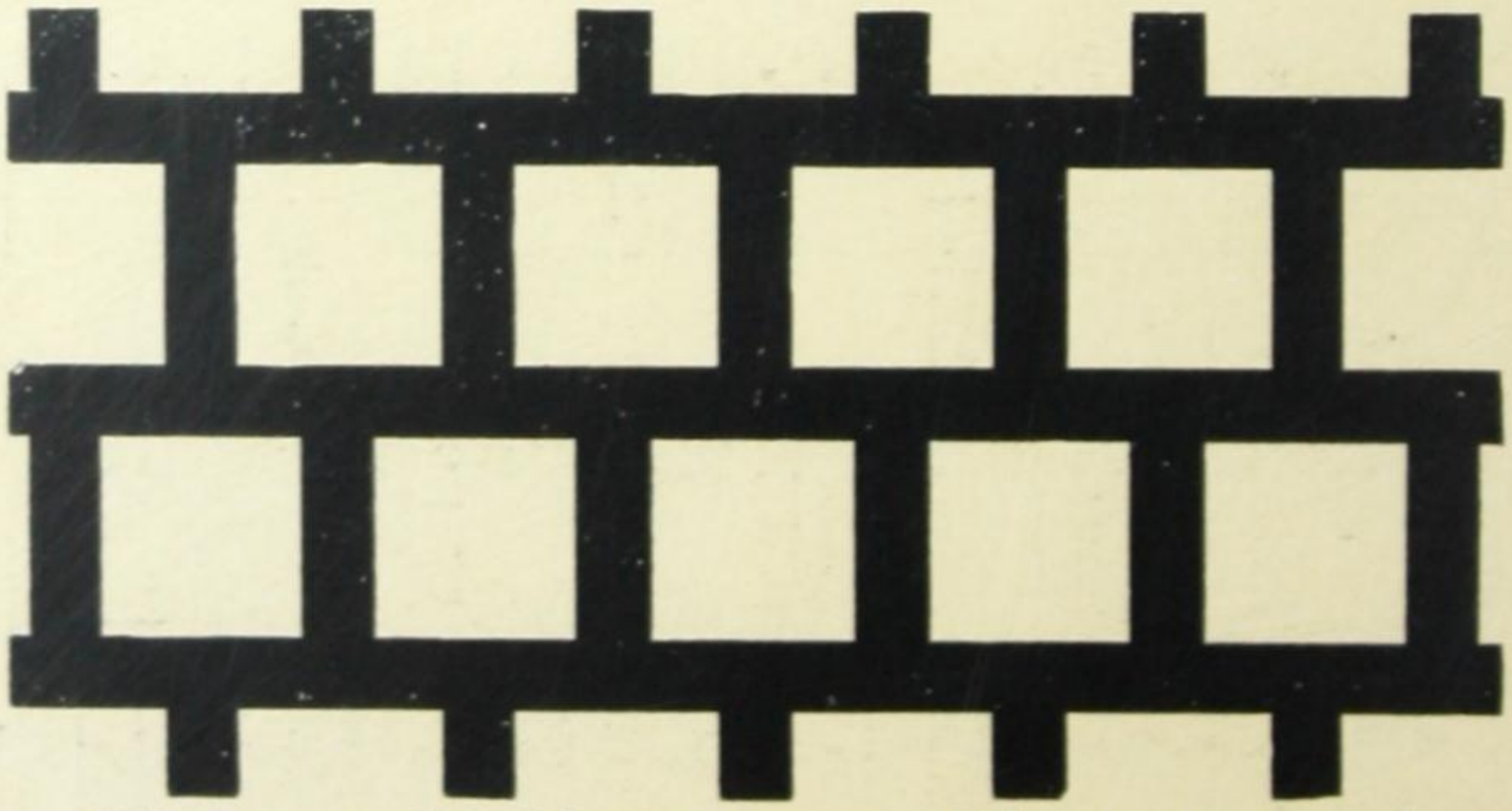
Reproduction of Perforations

For complete list of Perforations and Centers, see pages 59 and 60

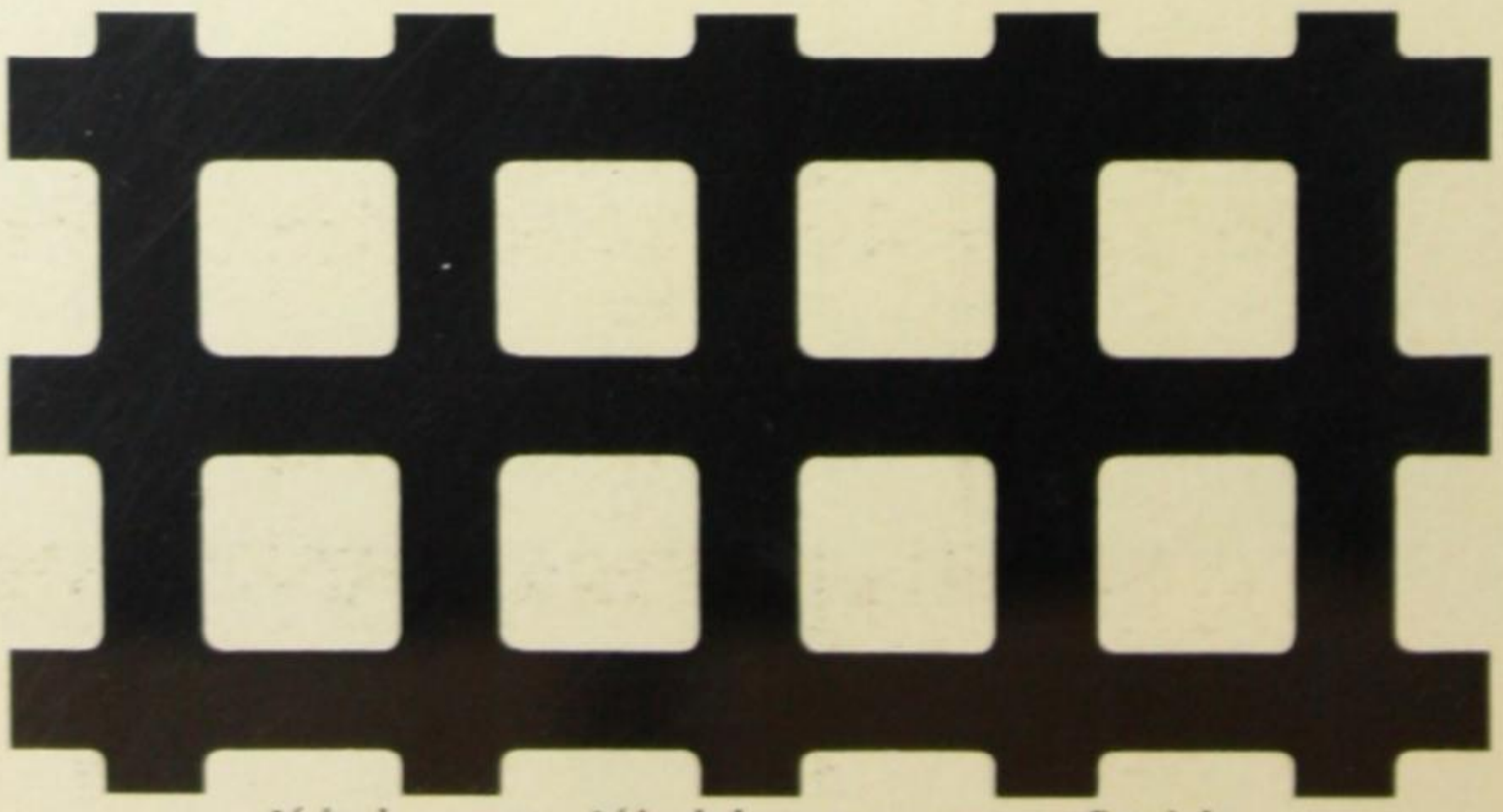
STANDARD PERFORATED SCREEN PLATES



$\frac{7}{16}$ inch square; $\frac{9}{16}$ inch between centers; 3 holes per square inch



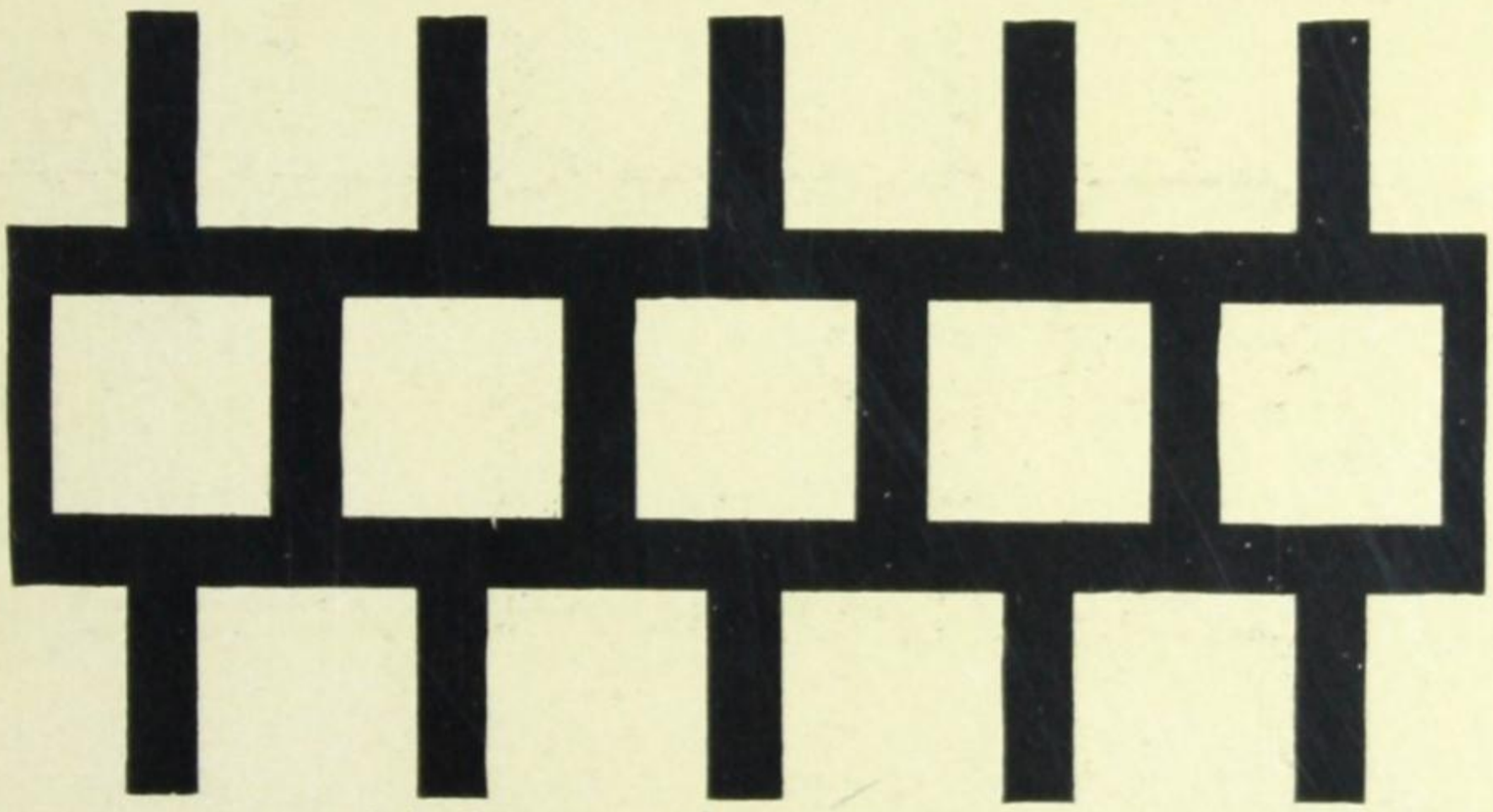
½ inch square; $\frac{11}{16}$ inch between centers; 1½ holes per square inch



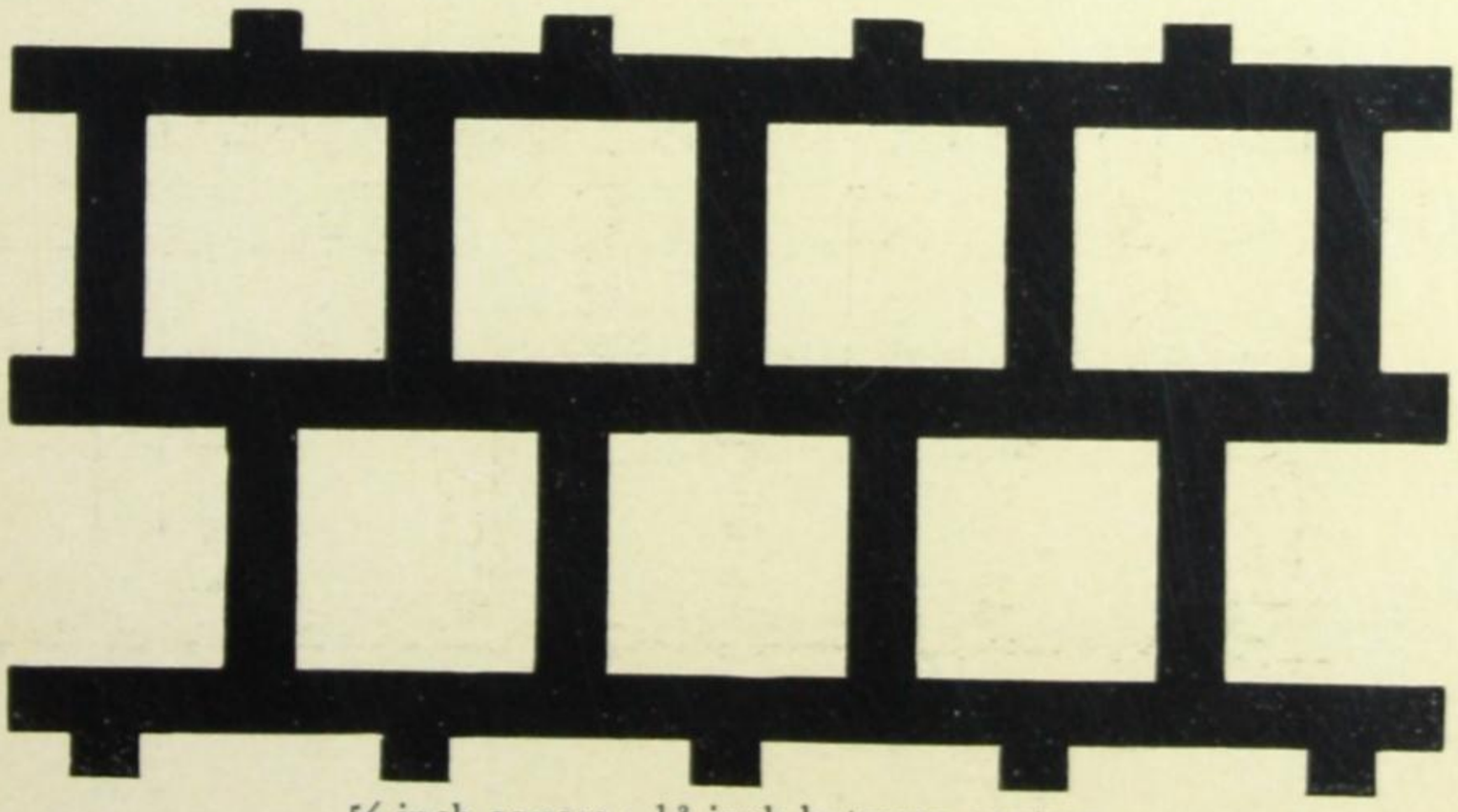
½ inch square; ¾ inch between centers; Straight
Reproduction of Perforations

For complete list of Perforations and Centers, see pages 59 and 60

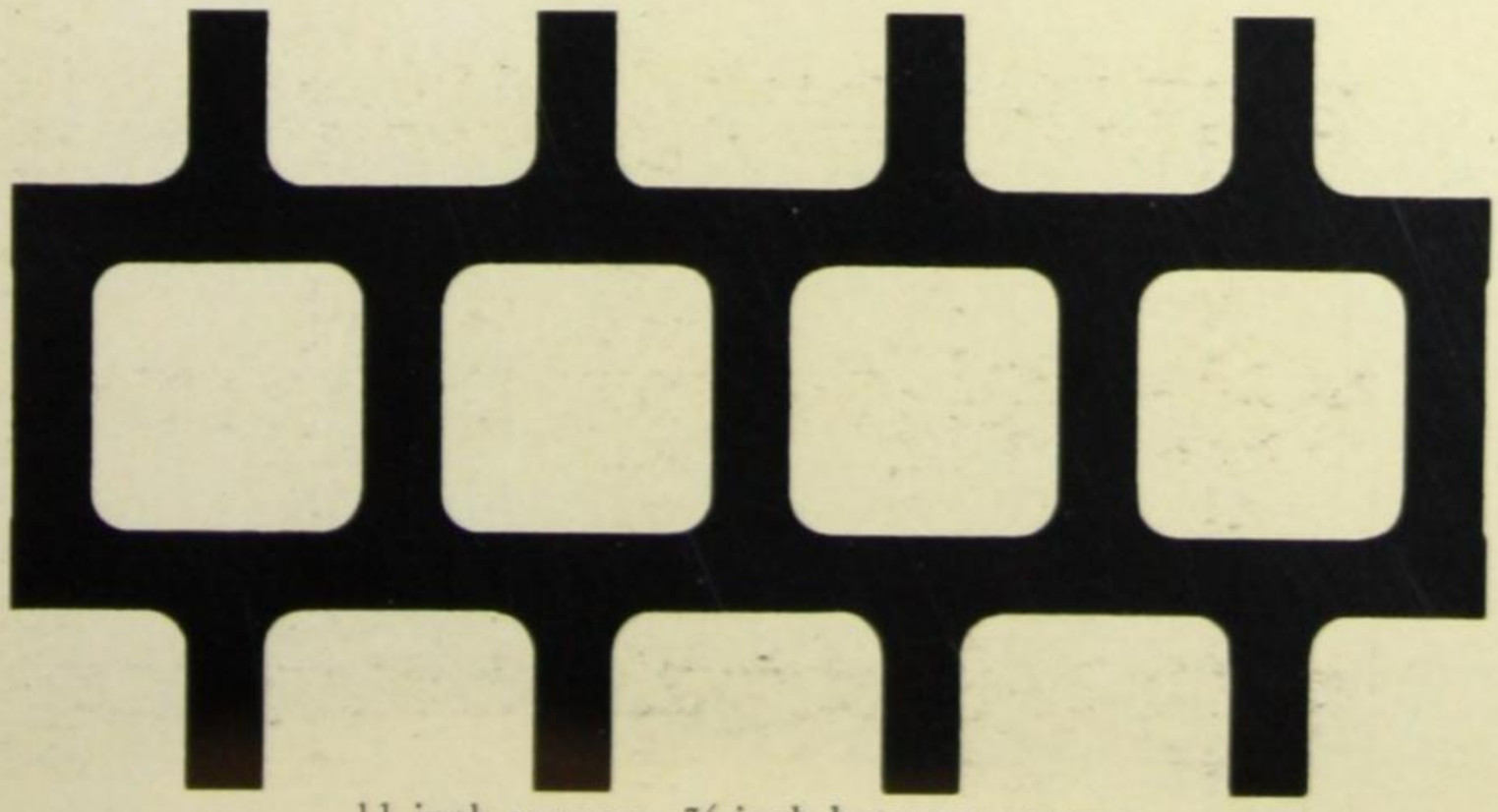
STANDARD PERFORATED SCREEN PLATES



$\frac{9}{16}$ inch square; $\frac{3}{4}$ inch between centers



$\frac{5}{8}$ inch square; $\frac{13}{16}$ inch between centers

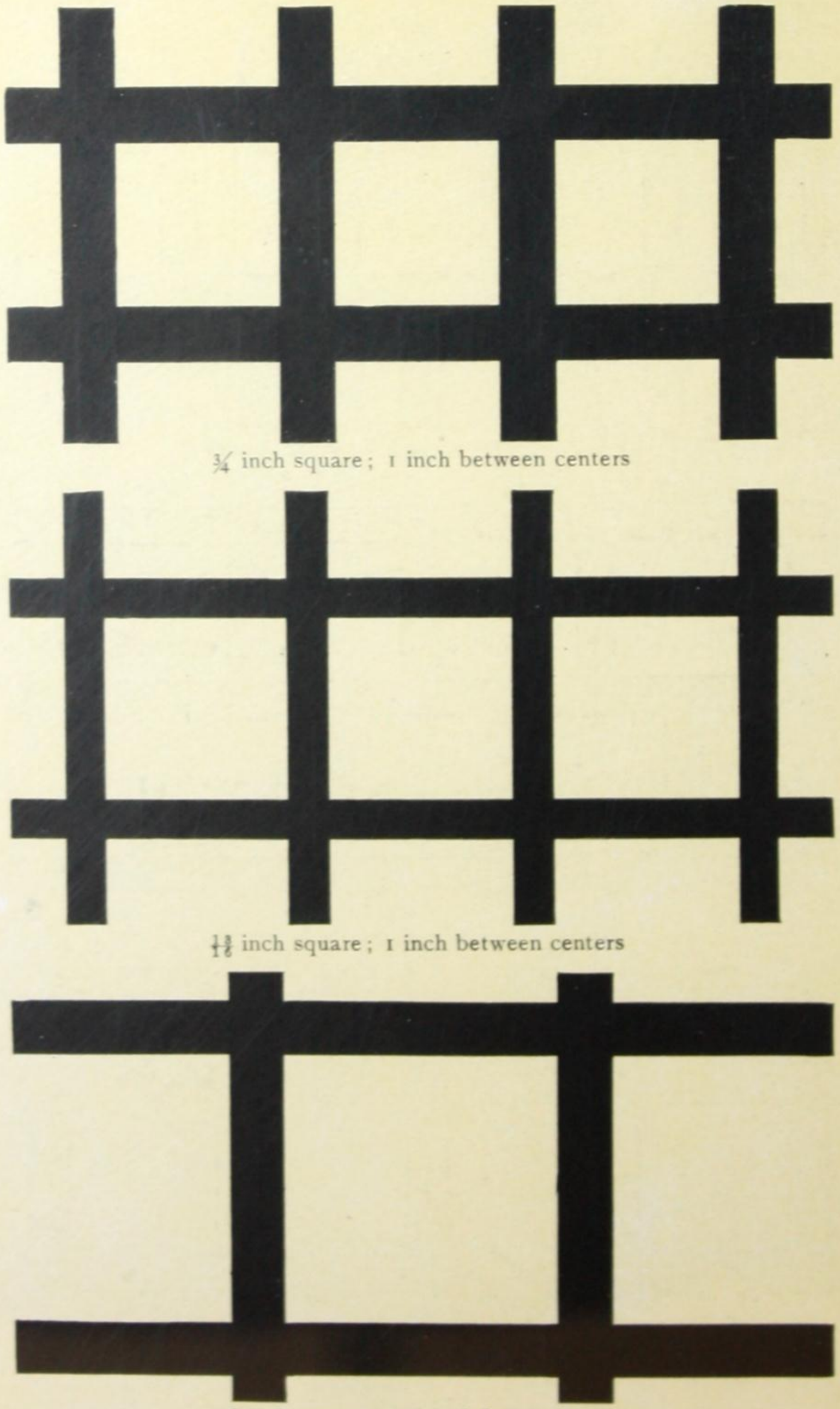


$\frac{11}{16}$ inch square; $\frac{7}{8}$ inch between centers

Reproduction of Perforations

For complete list of Perforations and Centers, see pages 59 and 60

STANDARD PERFORATED SCREEN PLATES



¾ inch square; 1 inch between centers

$\frac{13}{16}$ inch square; 1 inch between centers

1¼ inch square; 1½ inch between centers

Reproduction of Perforations

For complete list of Perforations and Centers, see pages 59 and 60

NEEDLE SLOT SCREENS

ALL THE SIZES of needle slot screens used in stamp batteries, or for other work, are listed below, every size likely to be required being covered.

Actual reproductions of many of these sizes are shown in the following pages.

We have equipped our shops with a complete outfit of dies and punches covering all sizes of perforations, from 70 mesh up, to any required width, with spacing to correspond, and are prepared to make a specialty of Battery Screens.

We can furnish these screens made from the best quality of cold rolled homogeneous steel or from other materials as required.

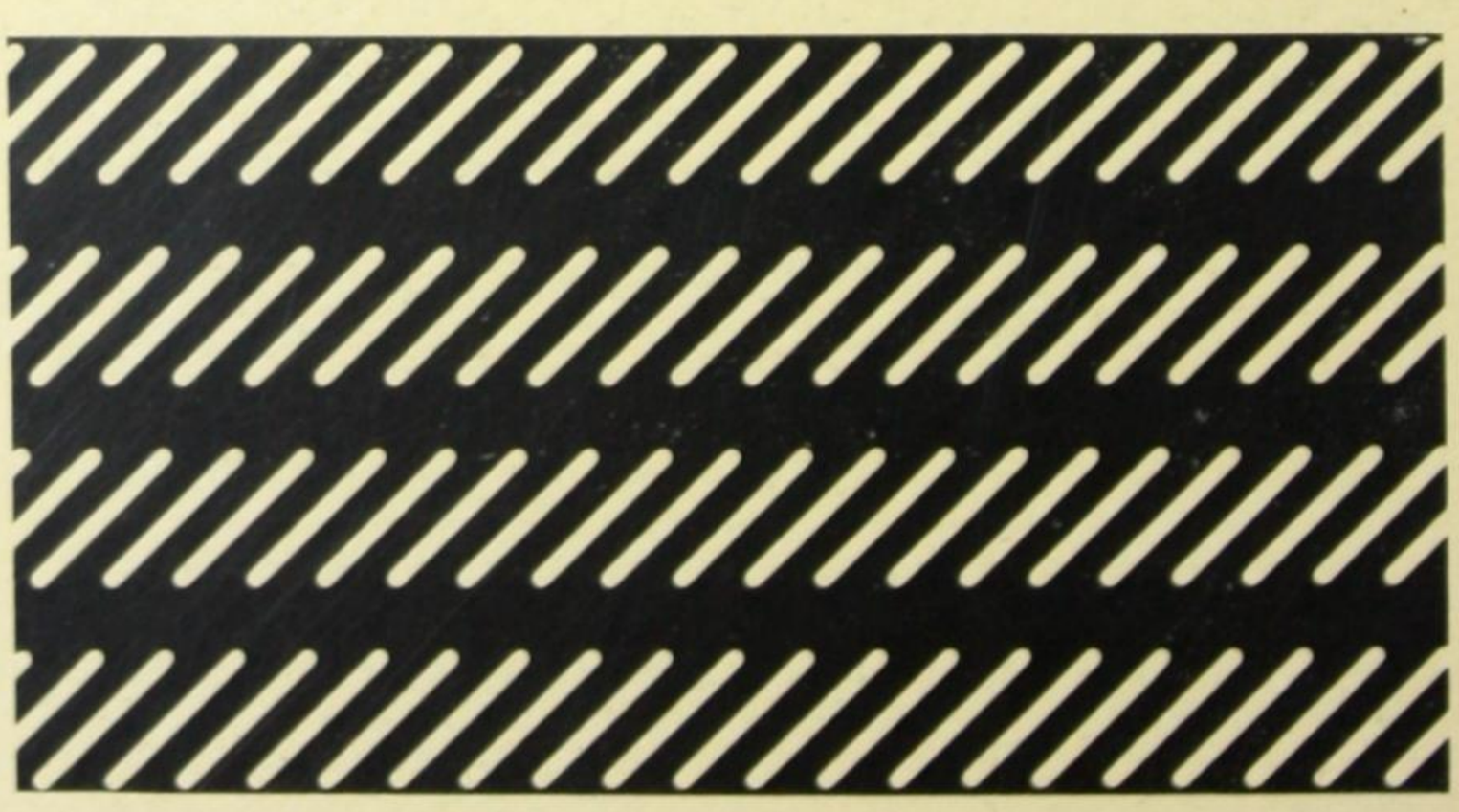
TABLE FOR PUNCHING NEEDLE SLOT SCREENS

No.	Mesh	Width of Slot	U. S. Standard Gauge Steel	Decimal of an Inch	Weight per Square Foot
1	12	.058	16	.0625	2.55
2	14	.049	16	.0625	2.55
3	16	.042	18	.05	2.04
4	18	.035	18	.05	2.04
5	20	.029	20	.0375	1.53
6	25	.027	20	.0375	1.53
7	30	.024	20	.0375	1.53
8	35	.022	20	.0375	1.53
9	40	.020	22	.0312	1.275
10	50	.018	24	.025	1.02
11	55	.0165	24	.025	1.02
12	60	.015	26	.0187	.765
13	70	.0135	26	.0187	.765

STANDARD NEEDLE SLOT SCREEN PLATES

NOTE—Slots in needle slot screen sheets are usually ½ inch long, running diagonally, and unless otherwise specified, we shall fill orders for needle slot screens with sheets thus perforated. We are prepared, however, to furnish screens having the slots running either lengthwise or crosswise of the sheet, with openings of specified widths and arranged in parallel rows or staggered.

The space between slots, within certain limits, may also be varied.

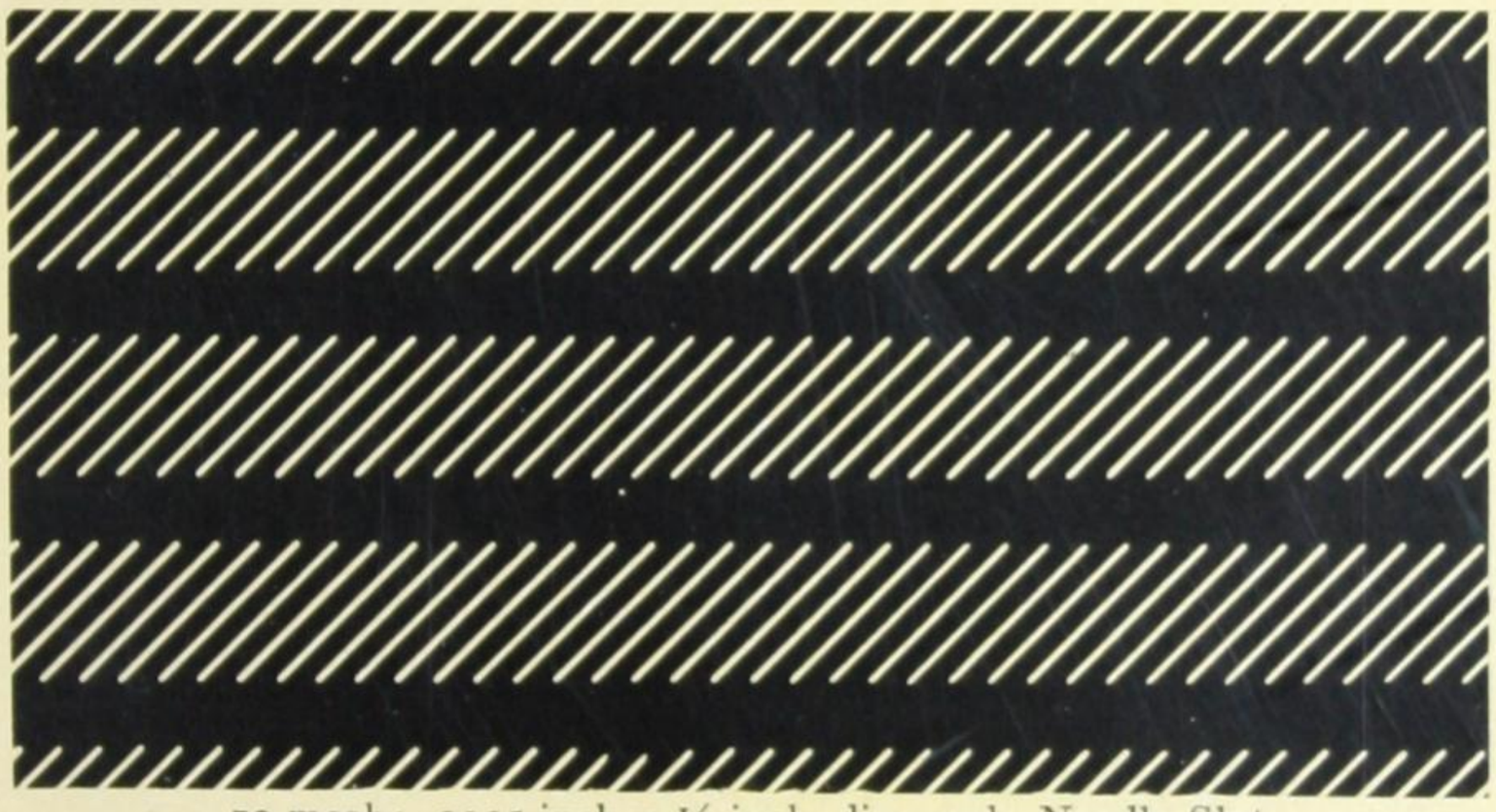


½ inch long, any width from .0135 (70 mesh) to 058 (12 mesh)

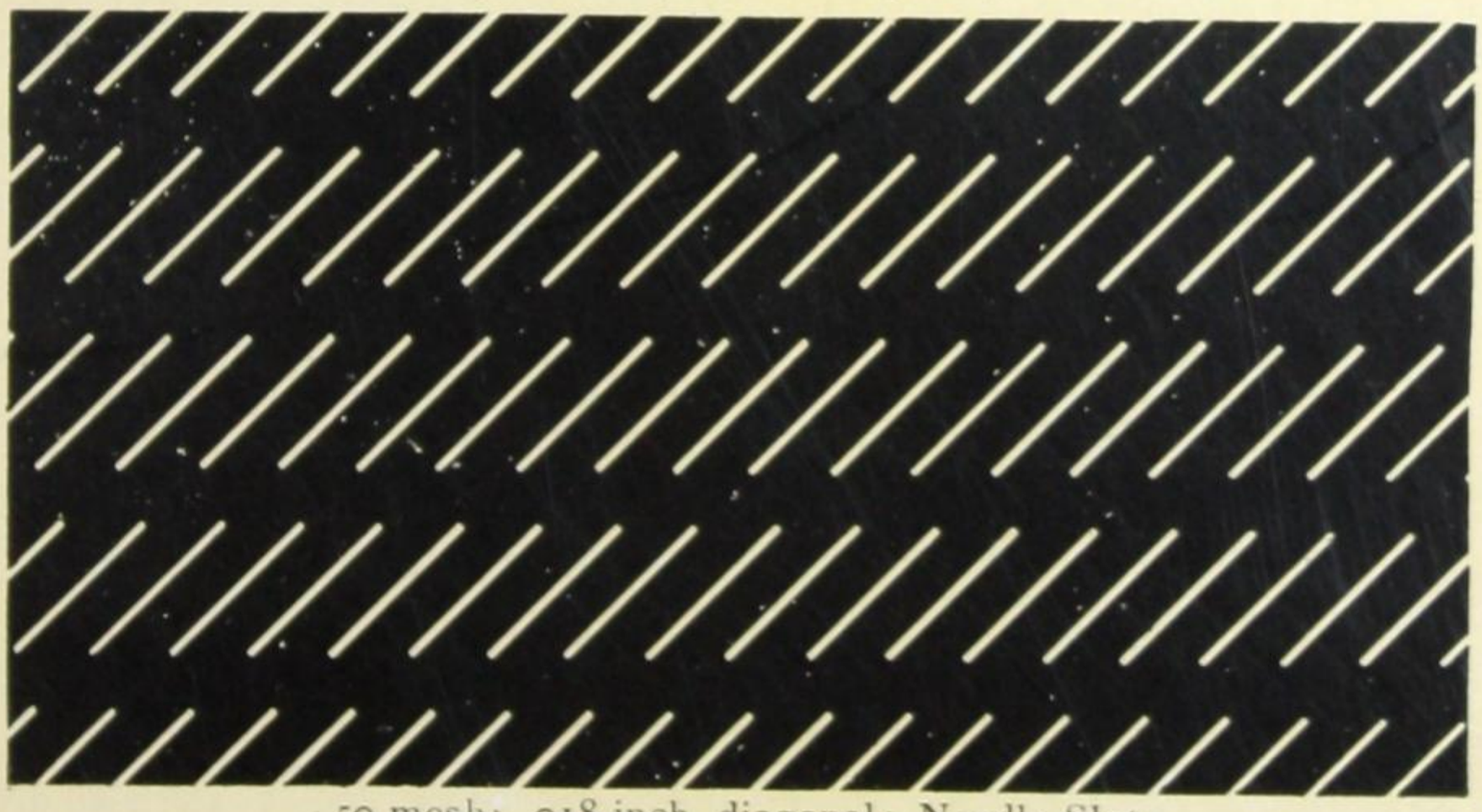
Reproduction of Perforations

For complete list of Perforations and Bars, see page 65

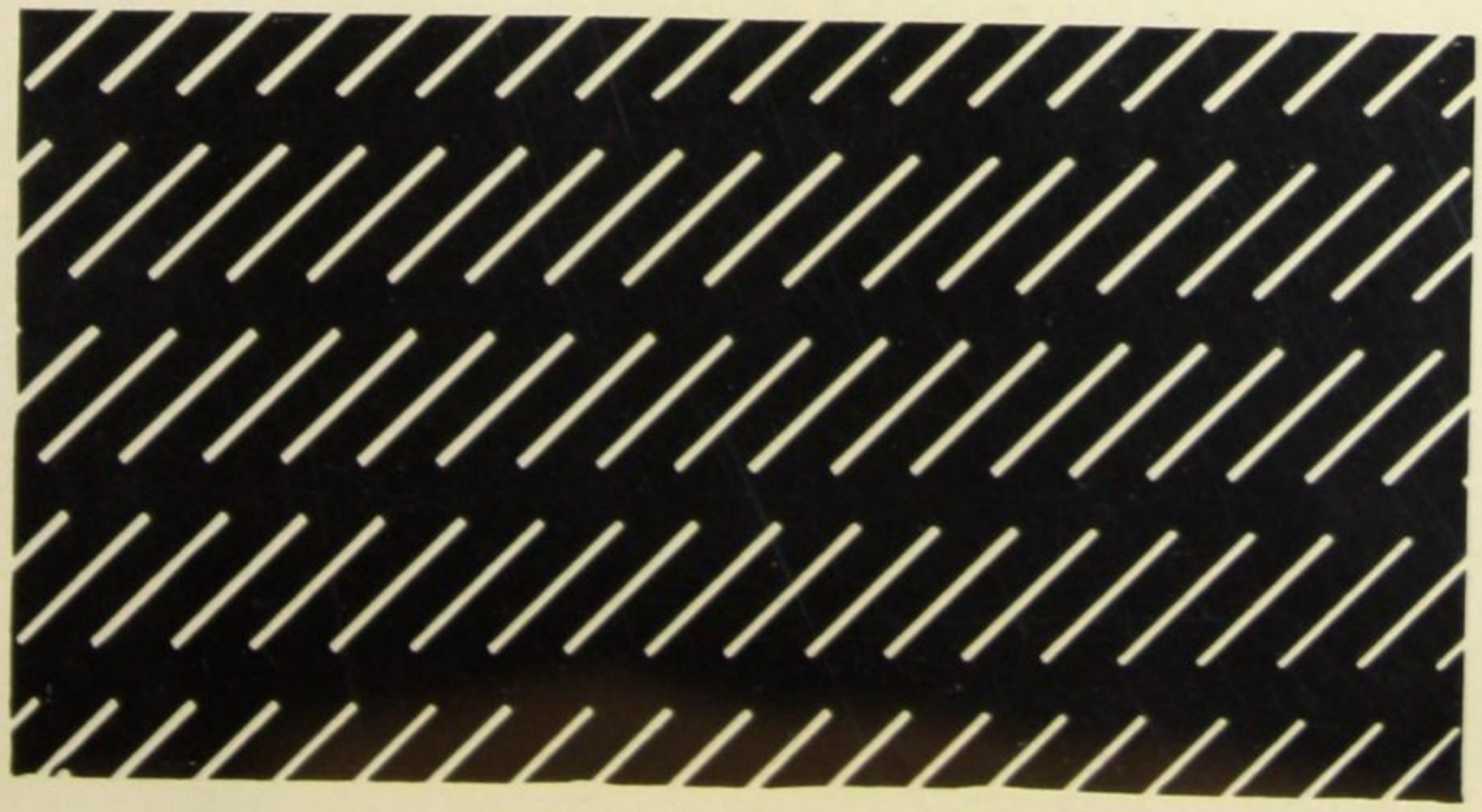
STANDARD PERFORATED SCREEN PLATES



70 mesh; .0135 inch x ½ inch, diagonal; Needle Slot



50 mesh; .018 inch, diagonal; Needle Slot

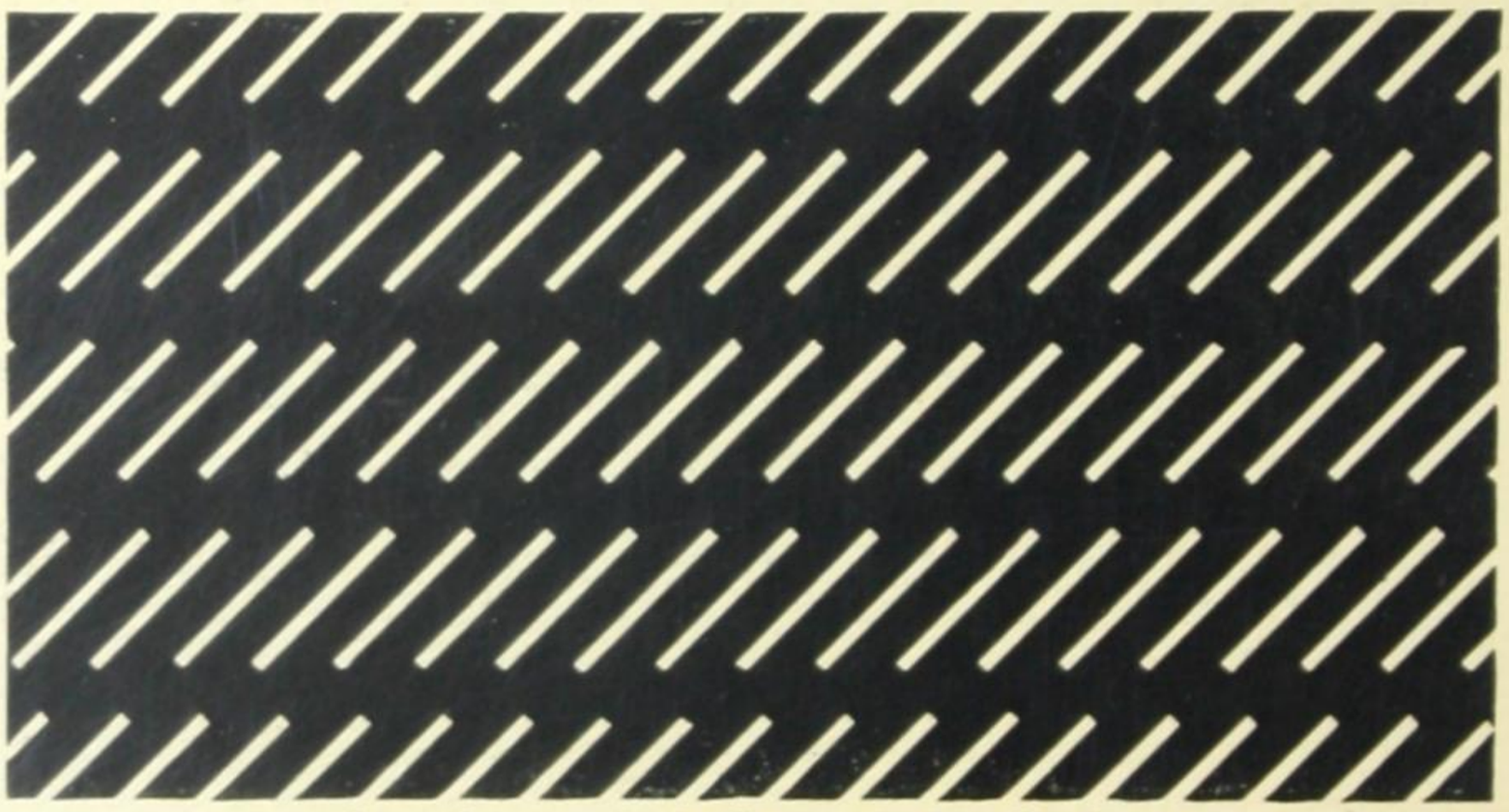


20 mesh; .029 inch, diagonal; Needle Slot

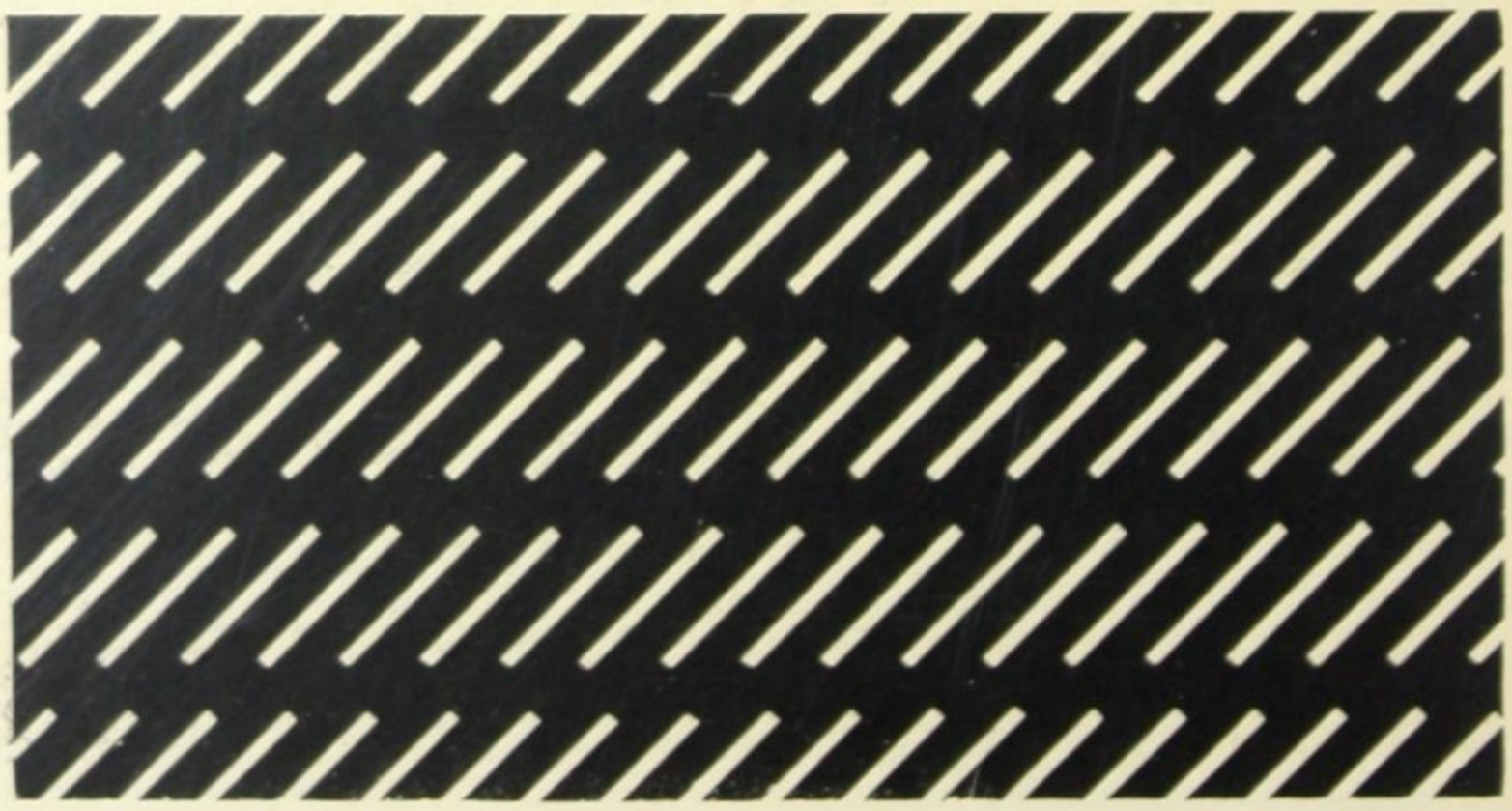
Reproduction of Perforations

For complete list of Perforations and Bars, see page 65

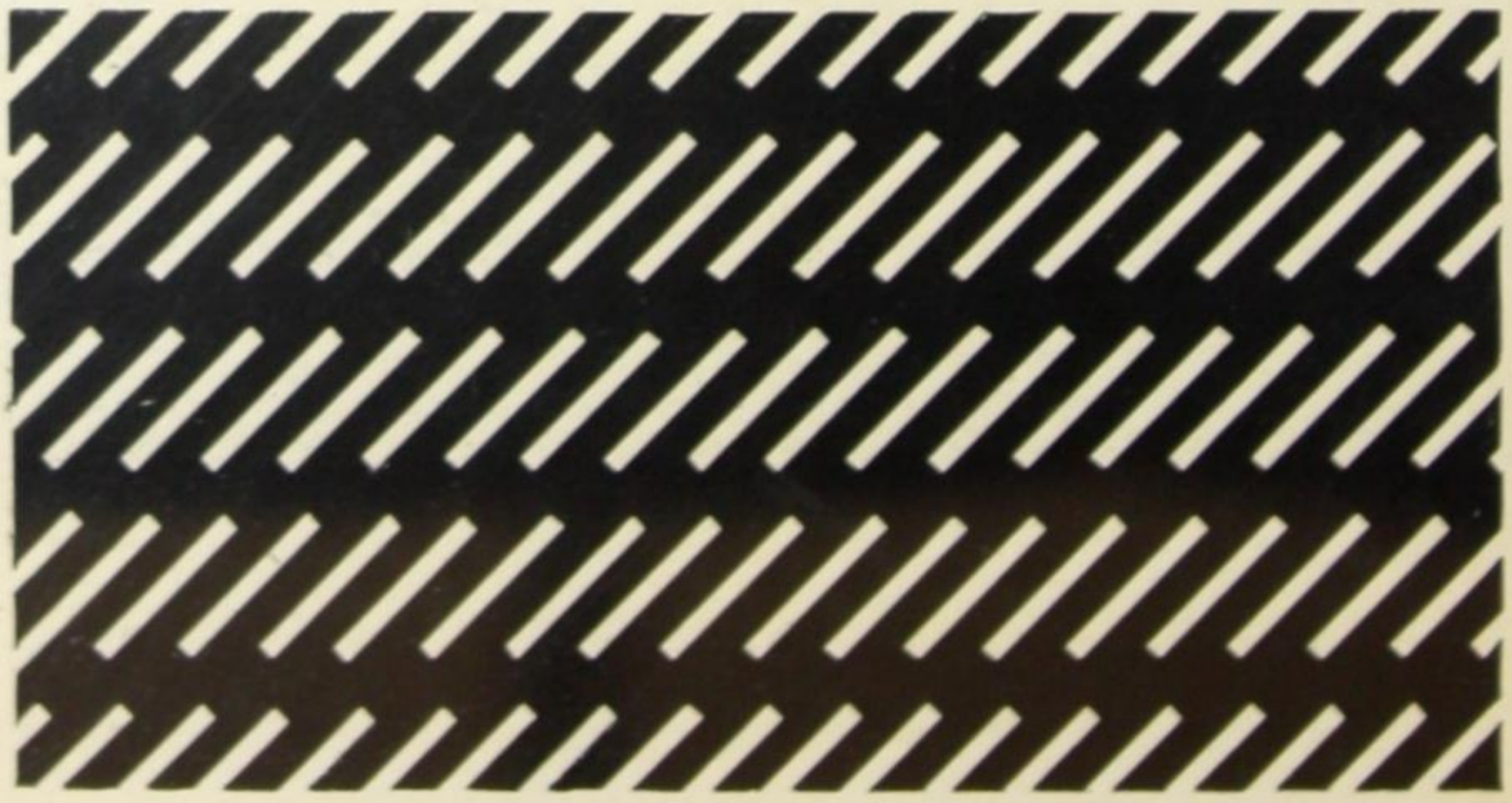
STANDARD PERFORATED SCREEN PLATES



18 mesh ; .035 inch, diagonal ; Needle Slot



16 mesh; .042 inch, diagonal; Needle Slot

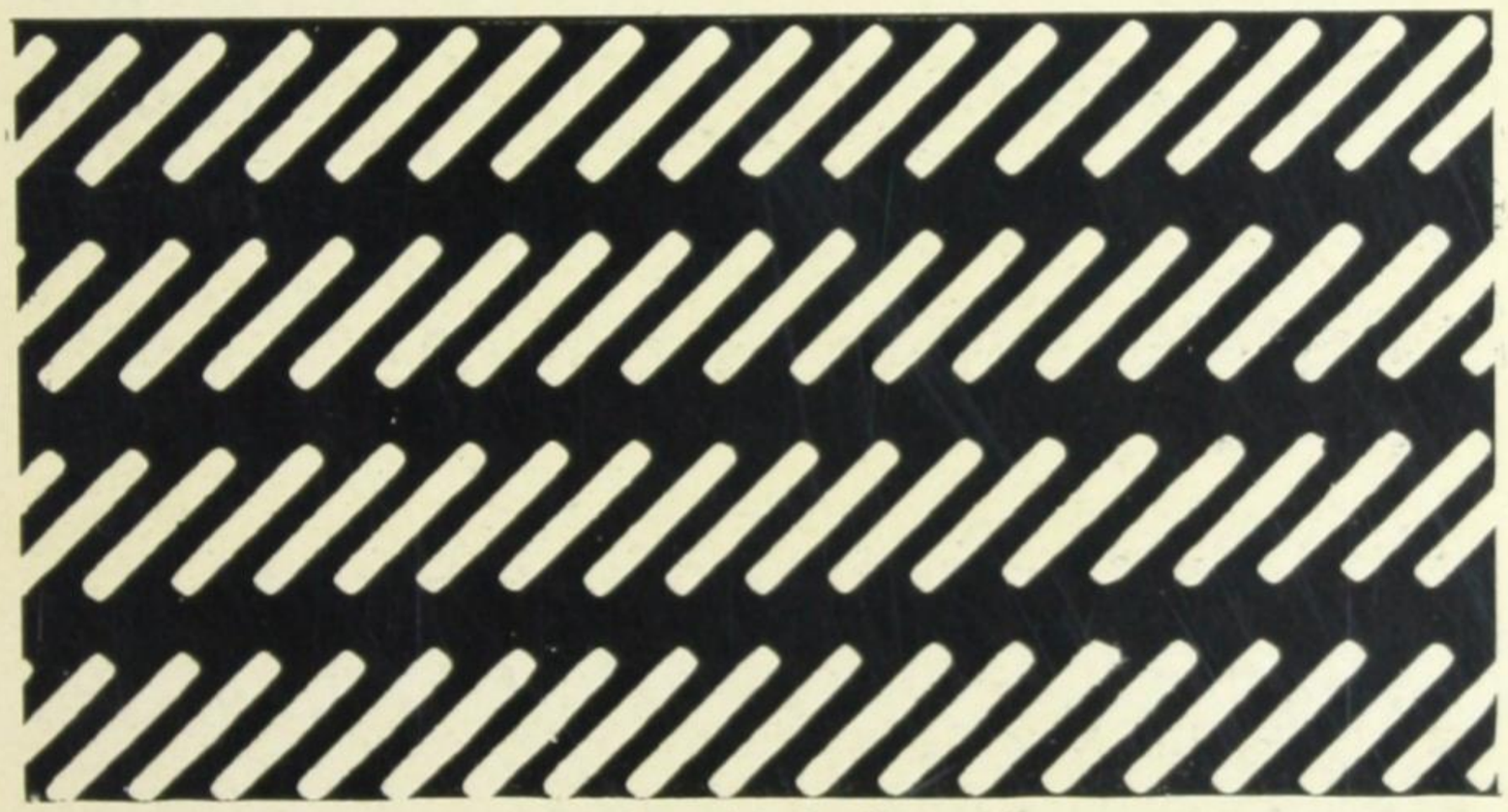


14 mesh ; .049 inch, diagonal ; Needle Slot

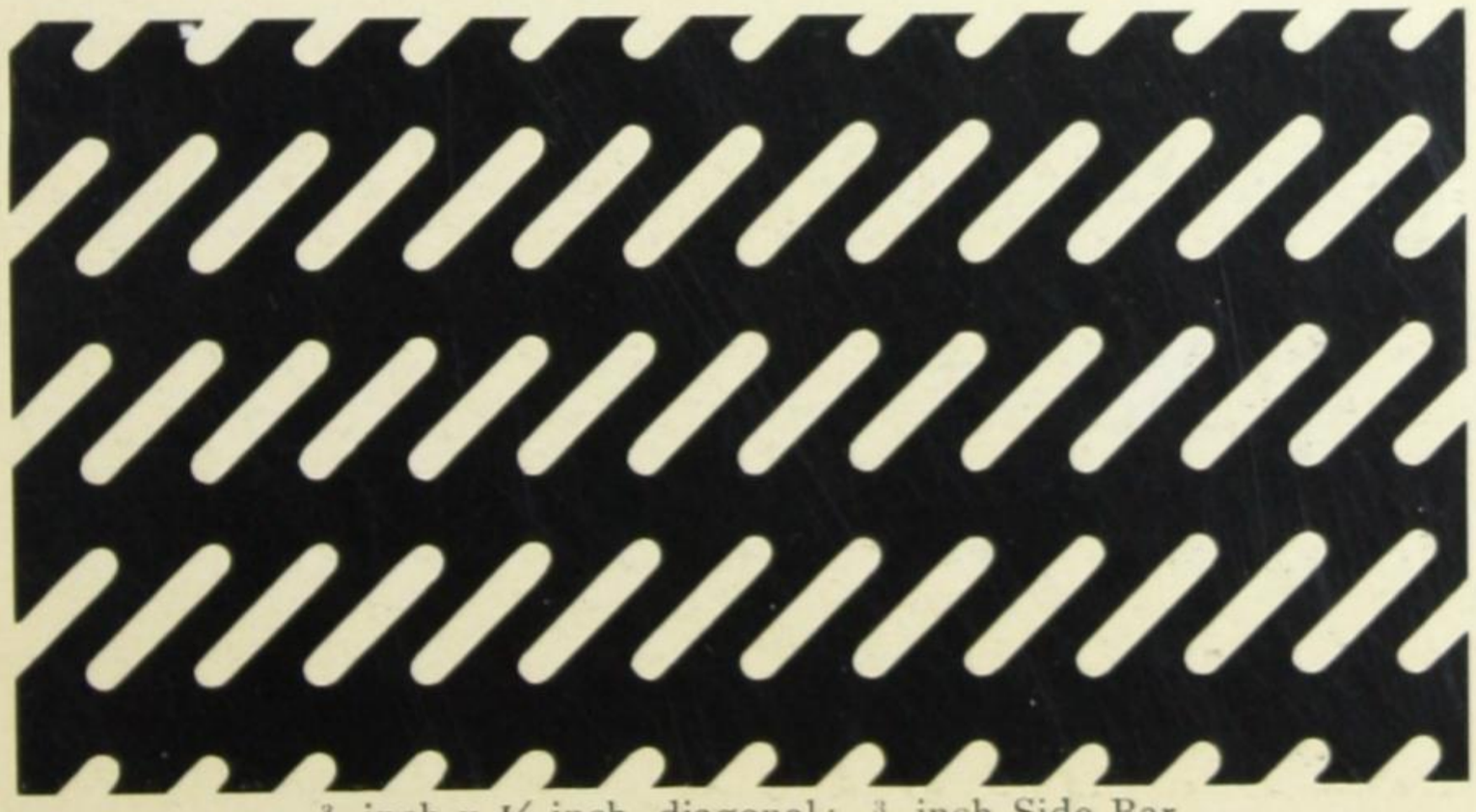
Reproduction of Perforations

For complete list of Perforations and Bars, see page 65

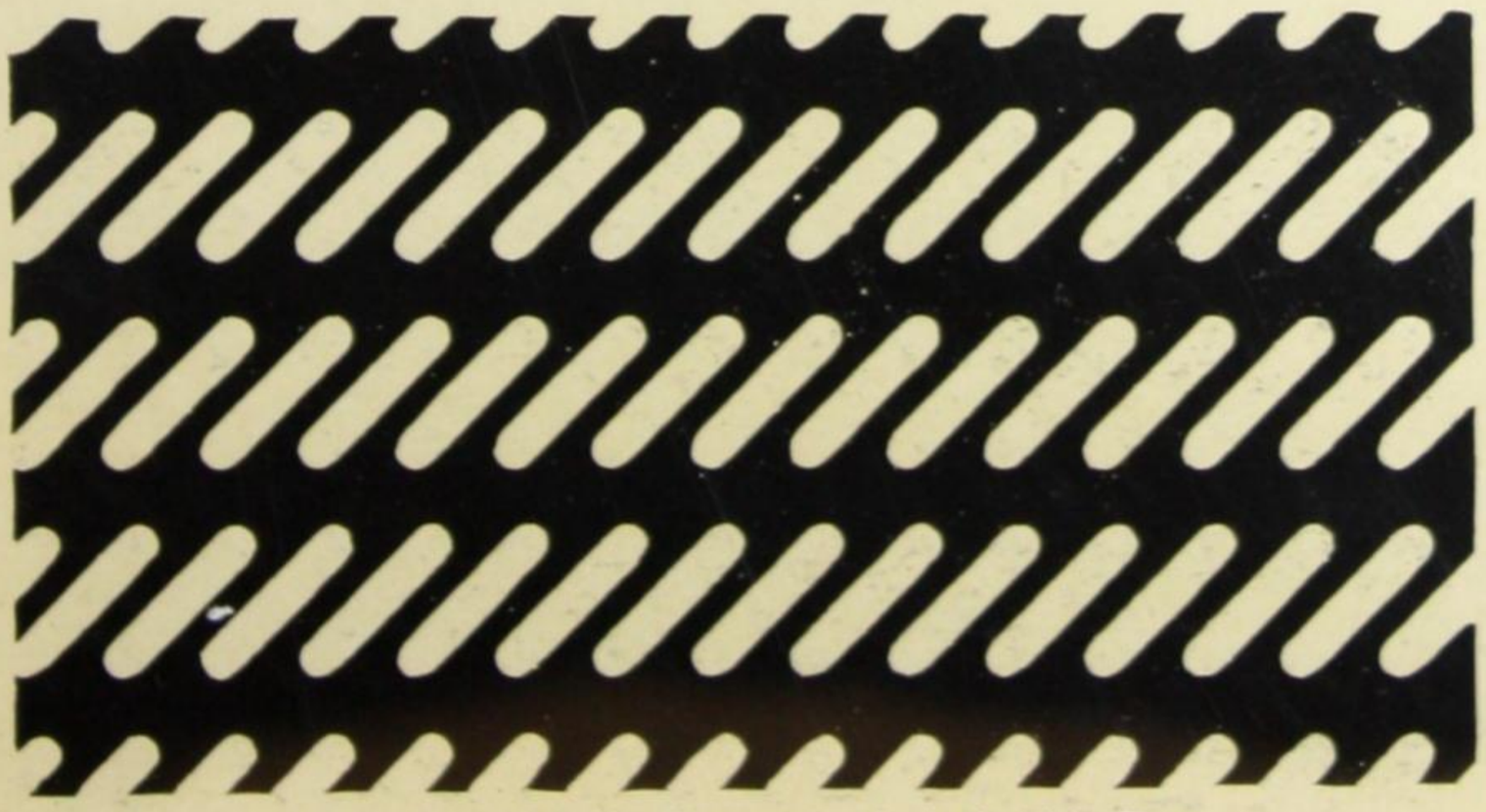
STANDARD PERFORATED SCREEN PLATES



$\frac{1}{16}$ inch x ½ inch, diagonal



$\frac{3}{32}$ inch x ½ inch, diagonal; $\frac{3}{32}$ inch Side Bar

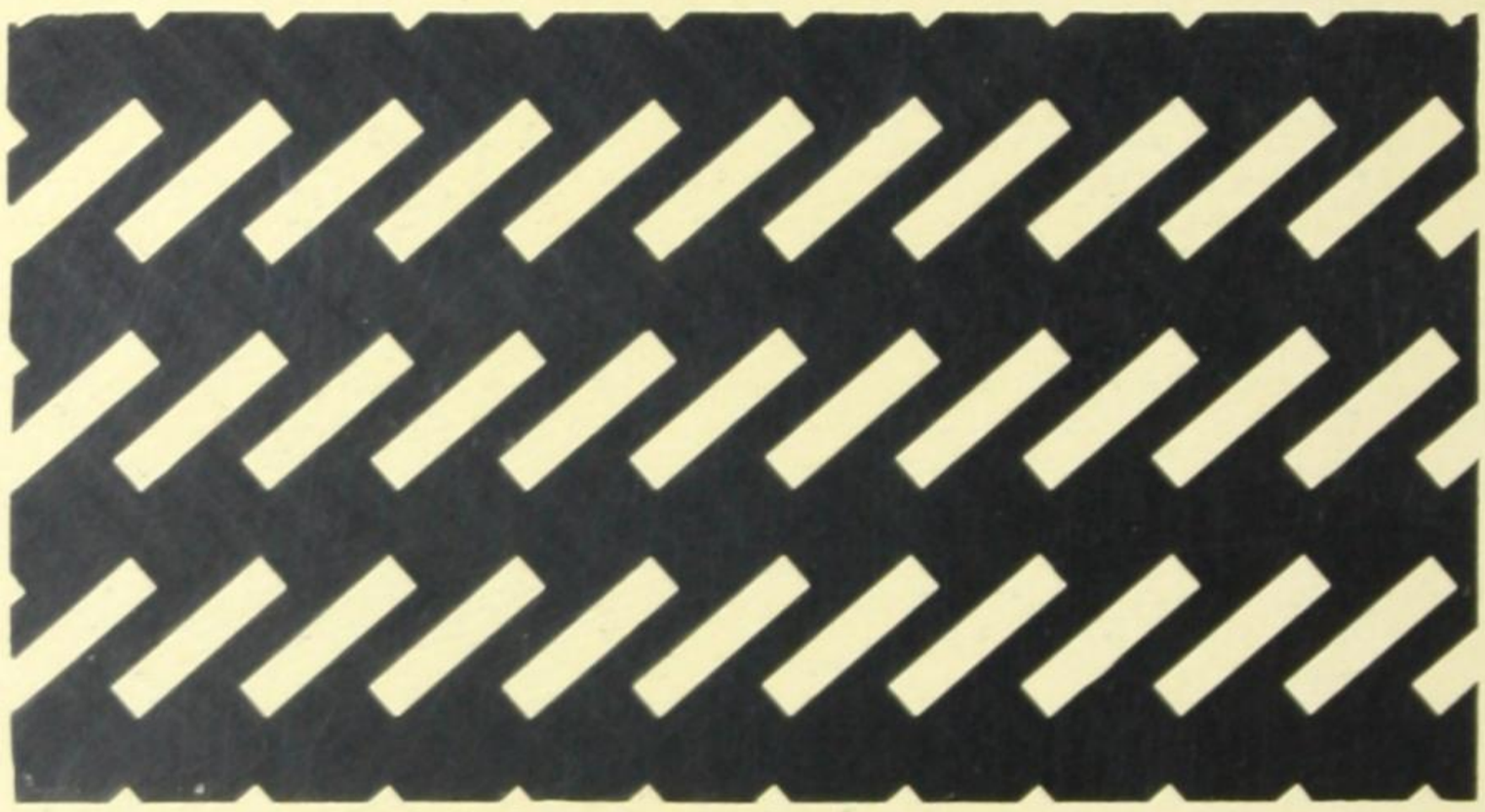


$\frac{3}{32}$ inch x ½ inch, diagonal; $\frac{1}{16}$ inch Side Bar

Reproduction of Perforations

For complete list of Perforations and Bars, see page 65

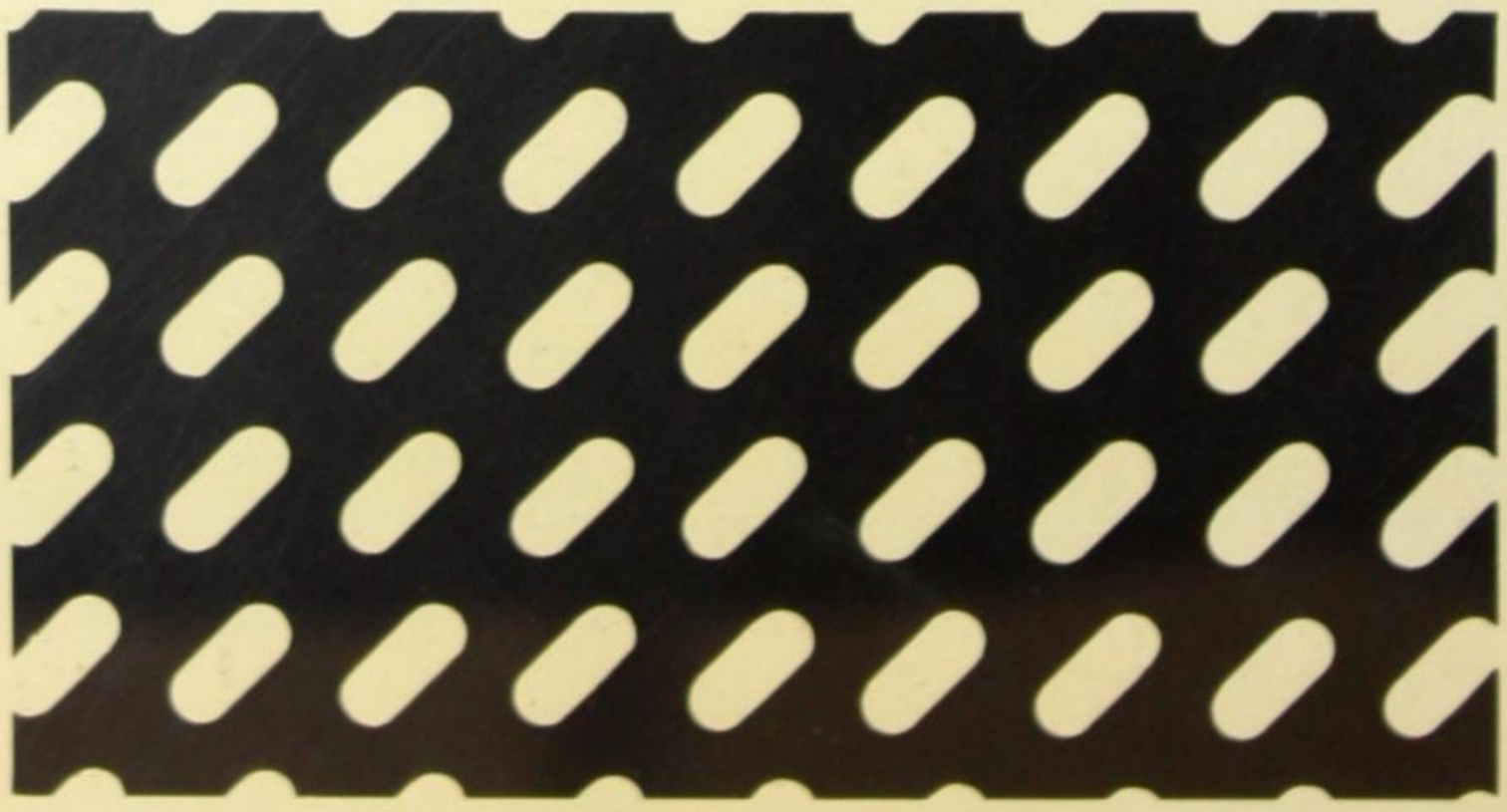
STANDARD PERFORATED SCREEN PLATES



$\frac{1}{10}$ inch x ½ inch, diagonal; Special



⅛ inch x ½ inch, diagonal

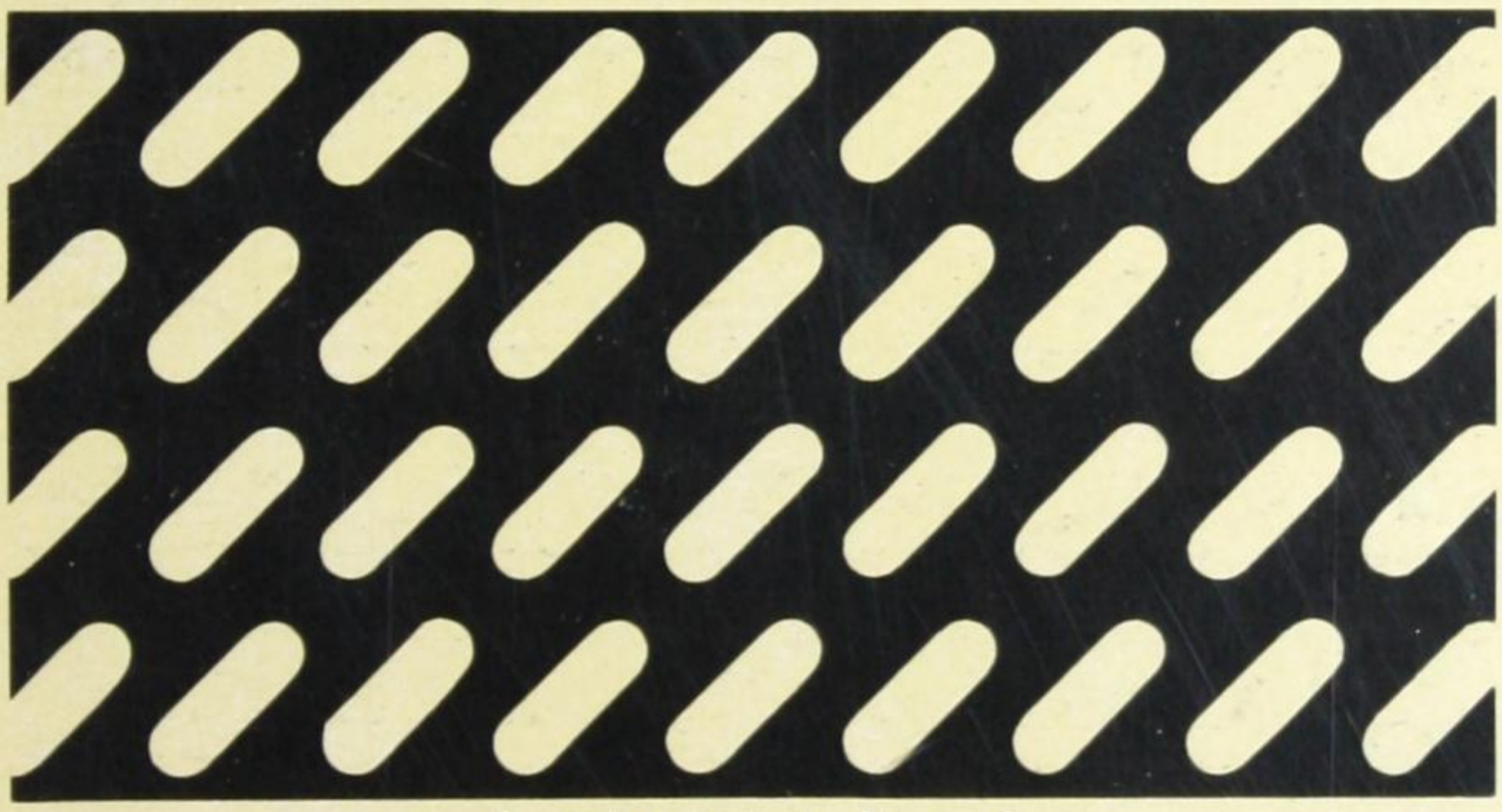


$\frac{5}{32}$ inch x ⅜ inch, diagonal

Reproduction of Perforations

For complete list of Perforations and Bars, see page 65

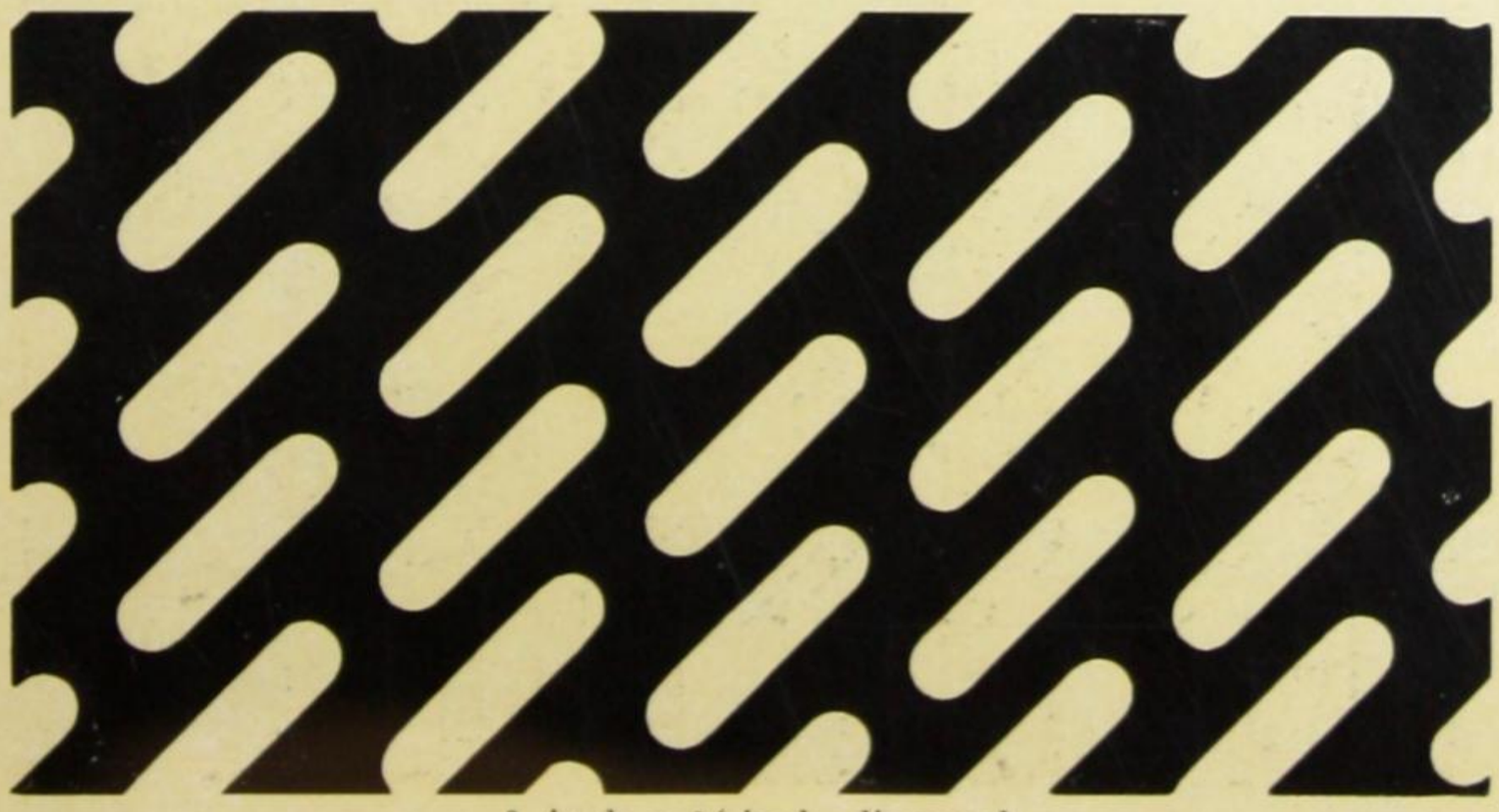
STANDARD PERFORATED SCREEN PLATES



$\frac{5}{32}$ inch x ½ inch, diagonal



$\frac{3}{16}$ inch x ½ inch, diagonal

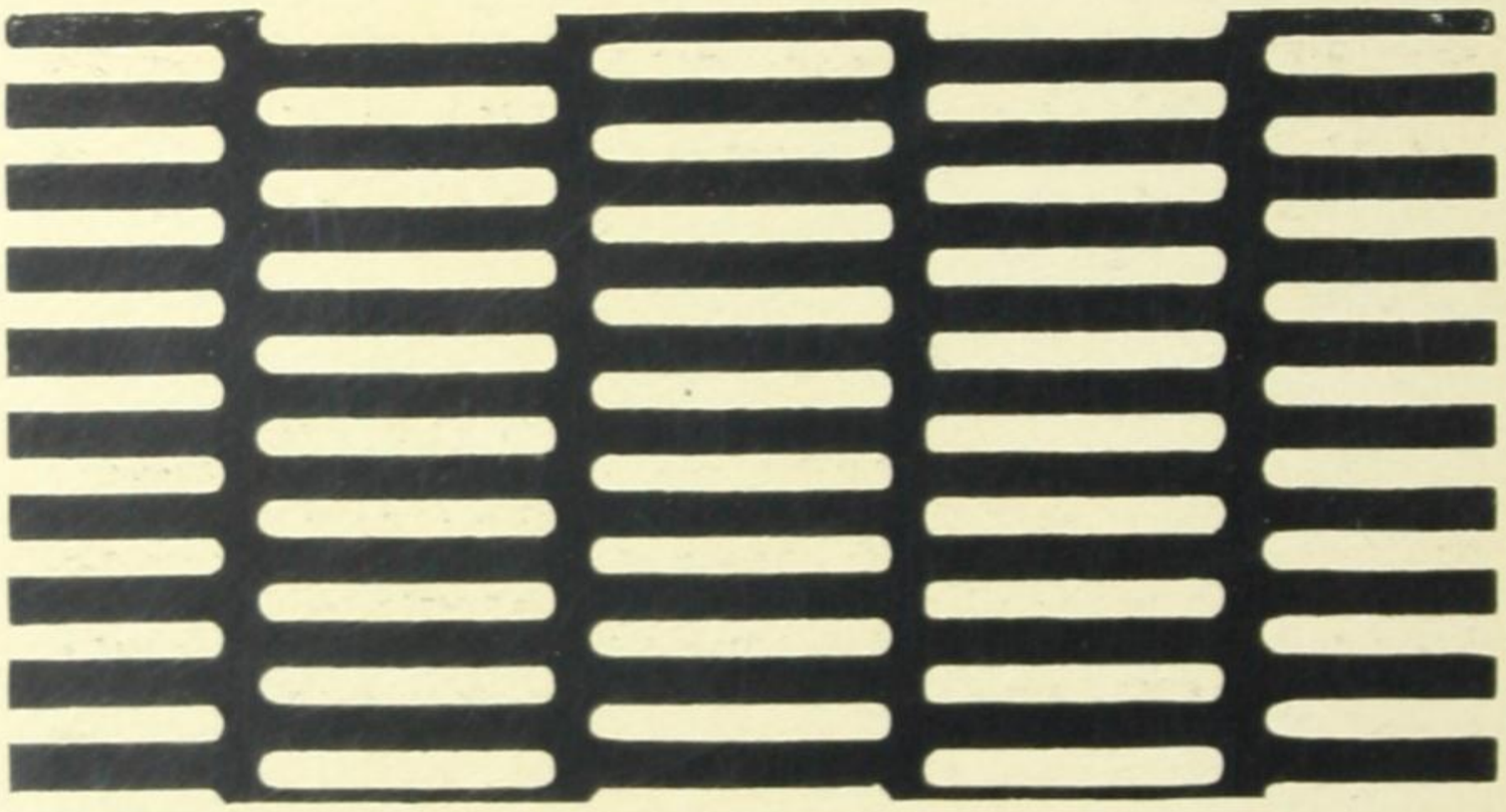


$\frac{3}{16}$ inch x ¾ inch, diagonal

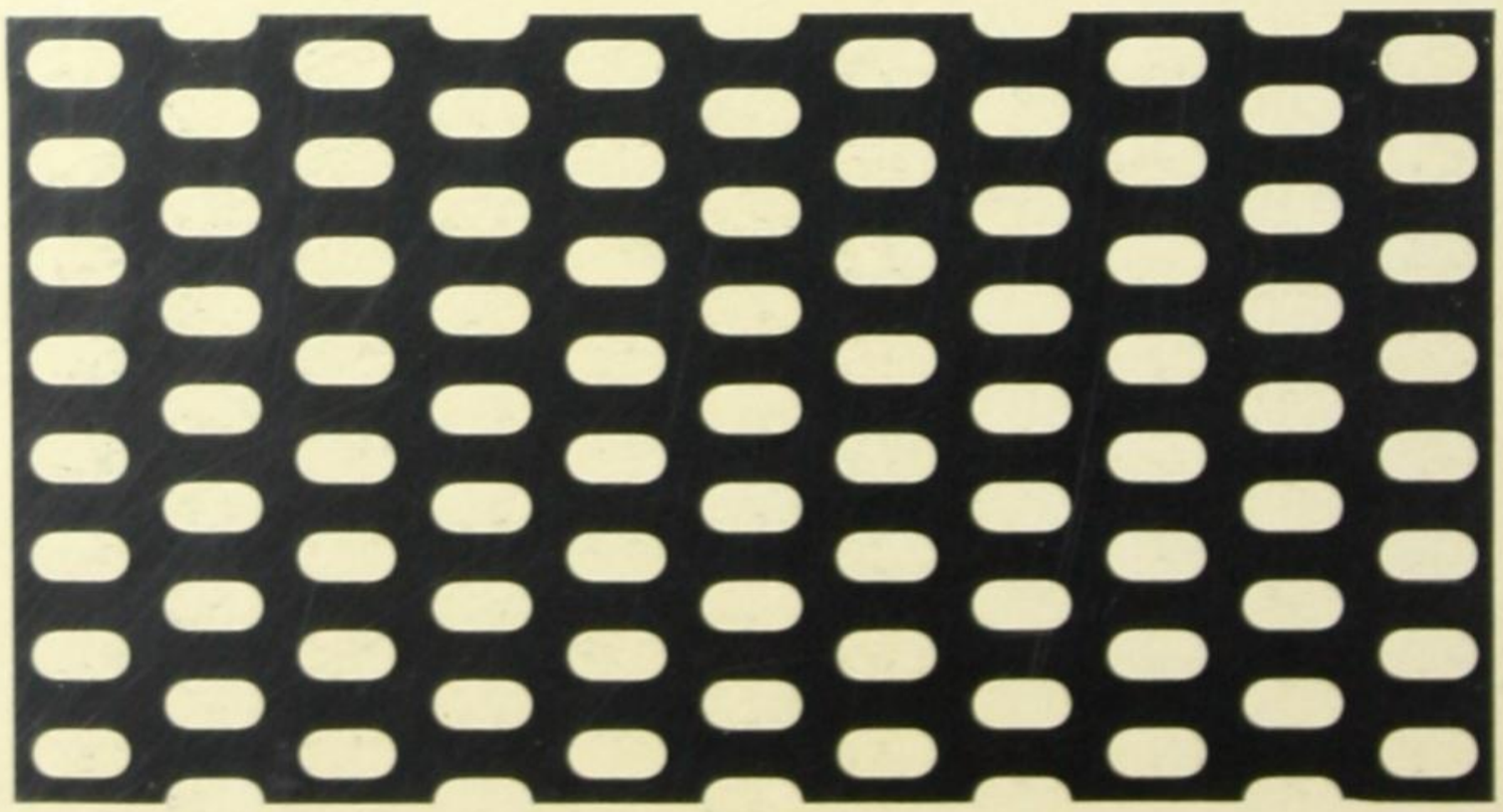
Reproduction of Perforations

For complete list of Perforations and Bars, see page 65

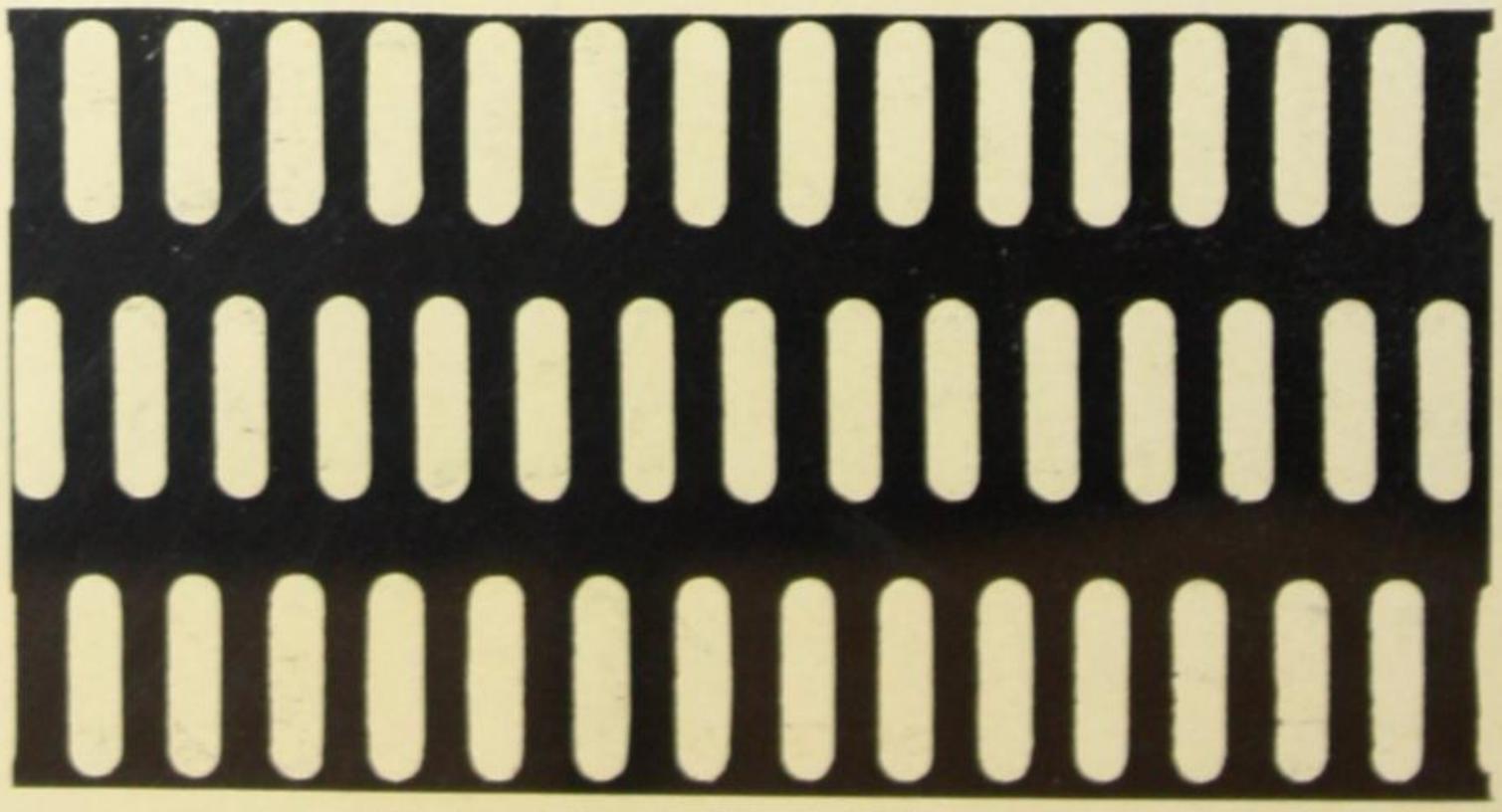
STANDARD PERFORATED SCREEN PLATES



$\frac{3}{8}$ inch x $\frac{3}{4}$ inch, Hit and Miss, endways



$\frac{1}{8}$ inch x $\frac{1}{4}$ inch, Hit and Miss, endways

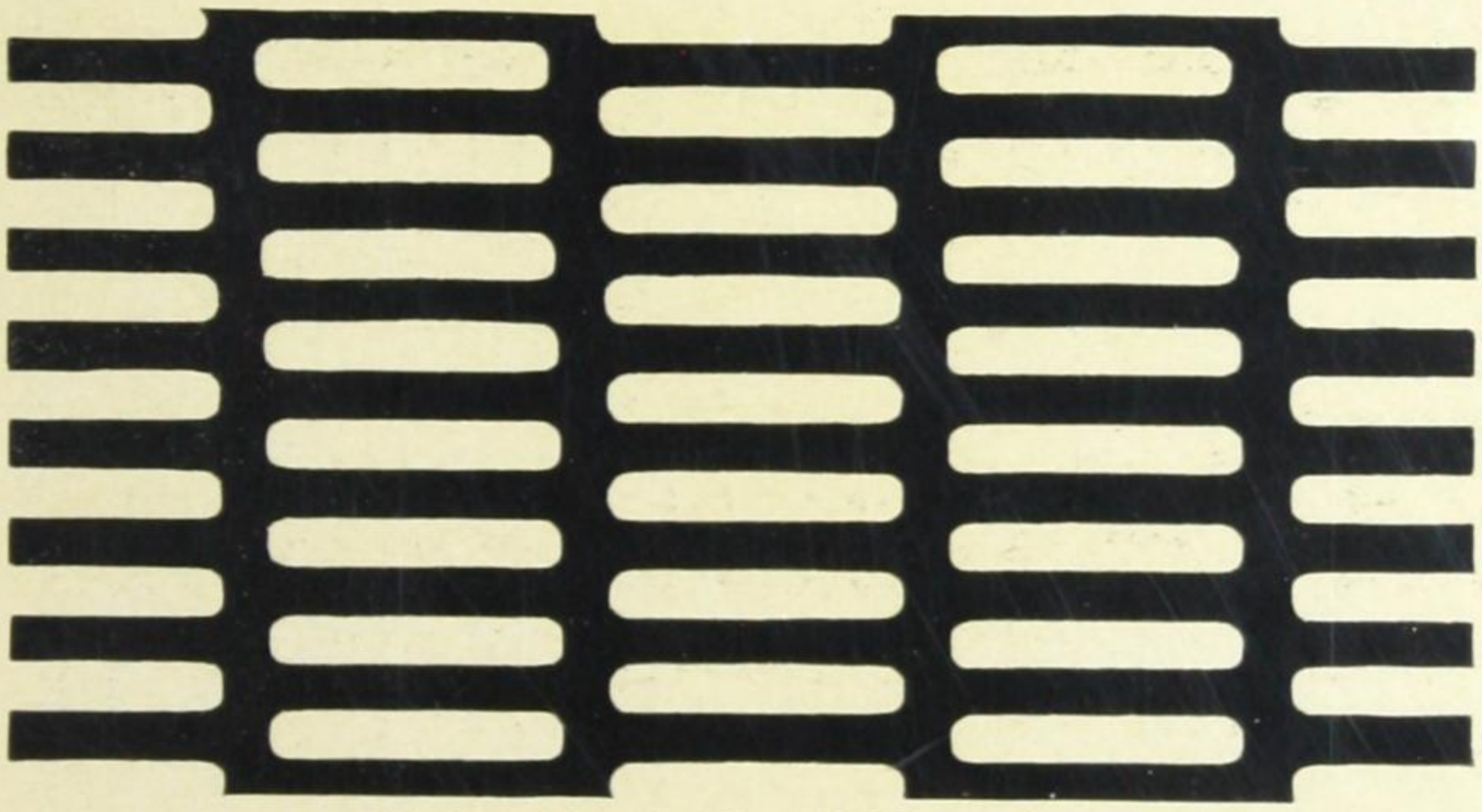


$\frac{1}{8}$ inch x $\frac{1}{2}$ inch, Hit and Miss, endways

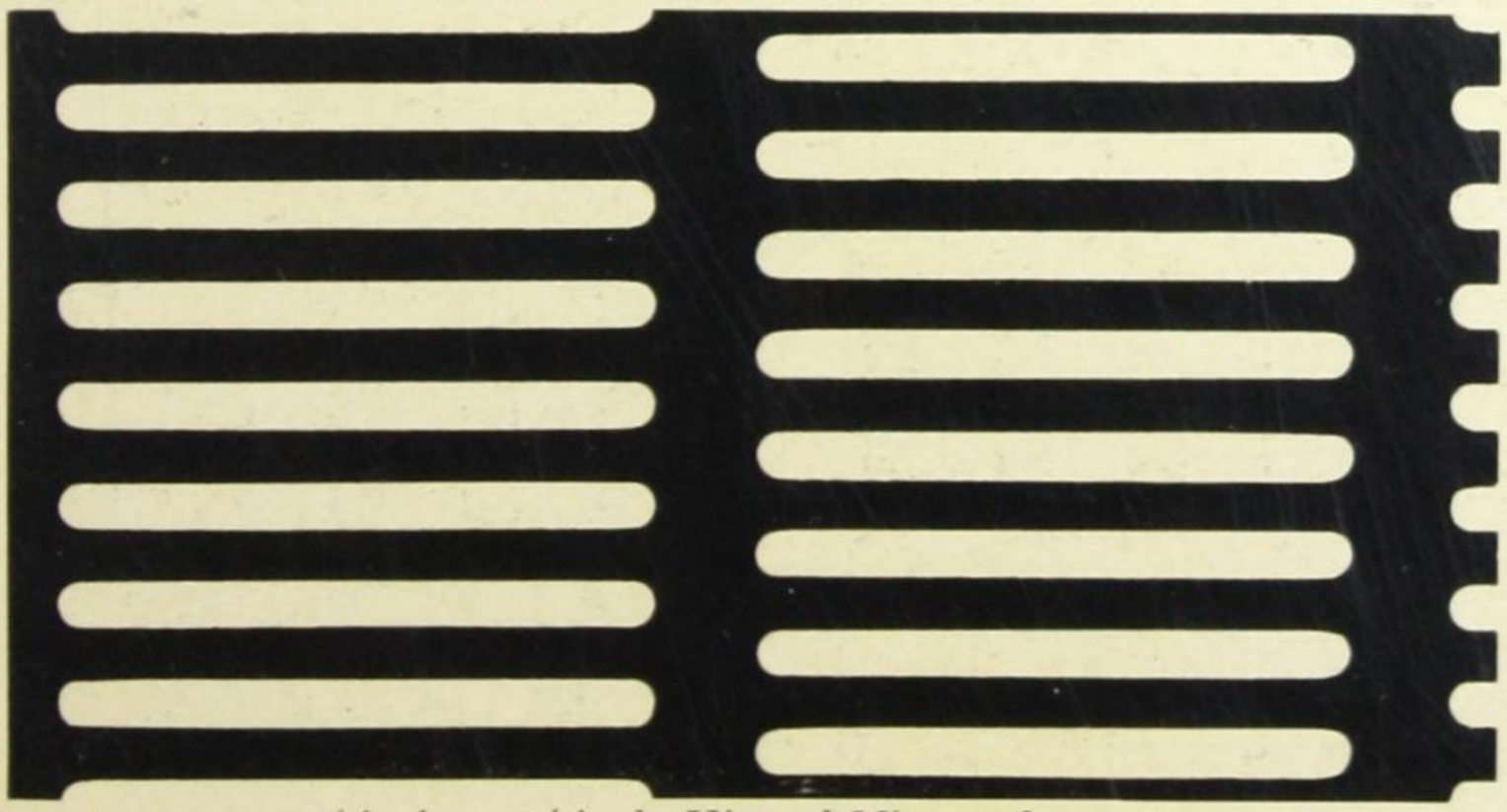
Reproduction of Perforations

For complete list of Perforations and Bars, see pages 62 and 63

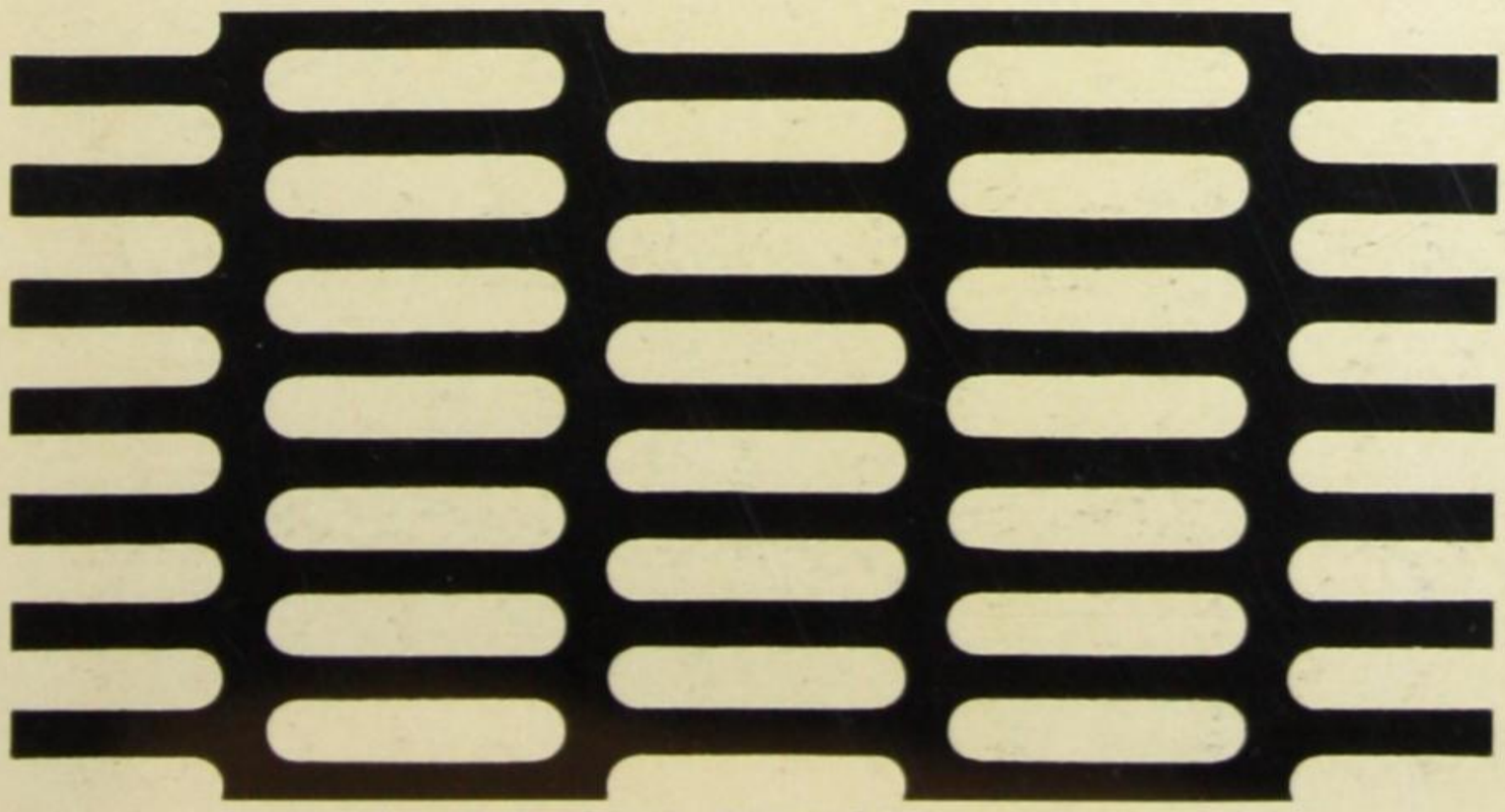
STANDARD PERFORATED SCREEN PLATES



⅛ inch x ¾ inch, Hit and Miss, endways



⅛ inch x 1½ inch, Hit and Miss, endways

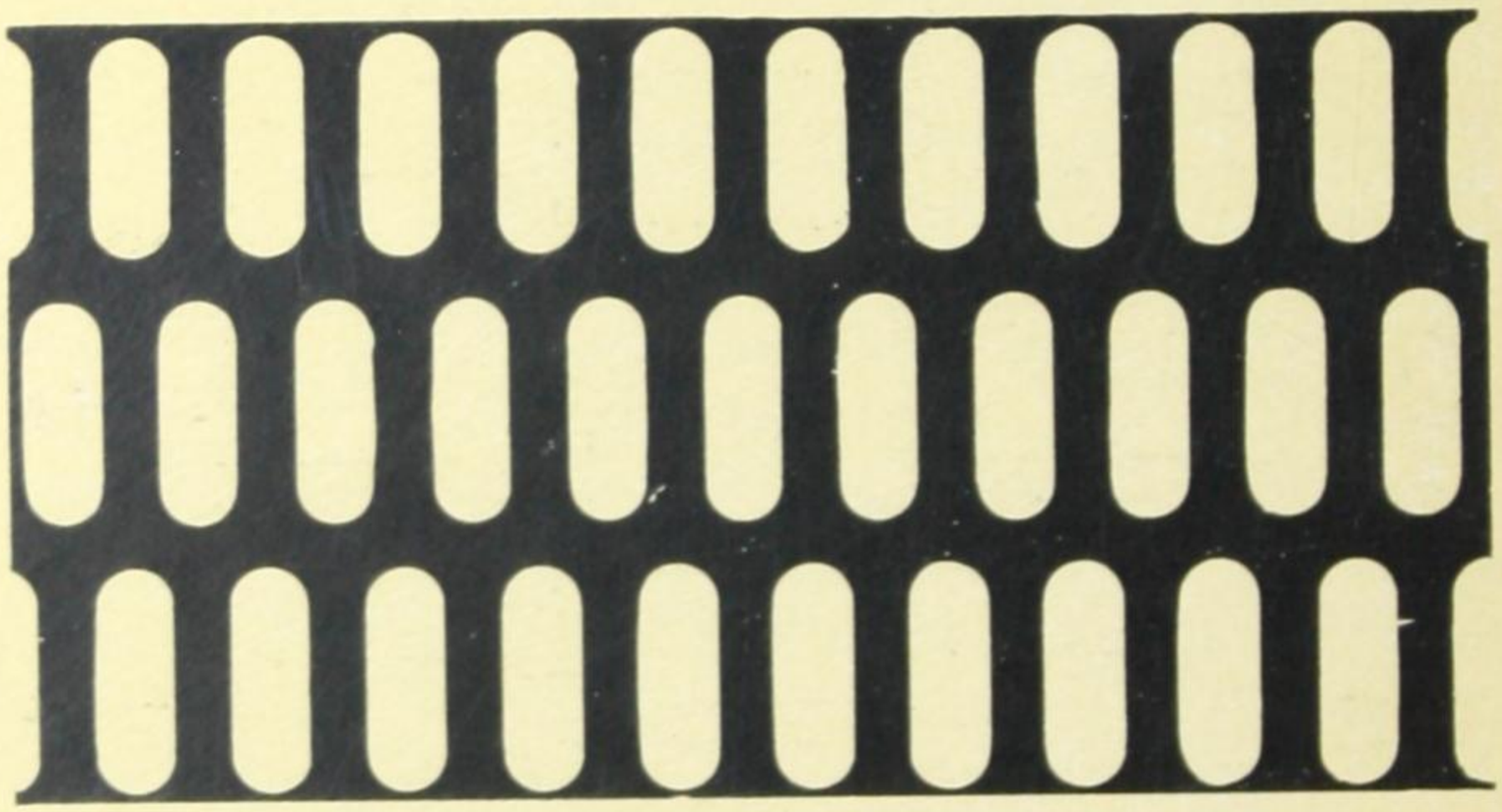


$\frac{5}{32}$ inch x ¾ inch, Hit and Miss, endways

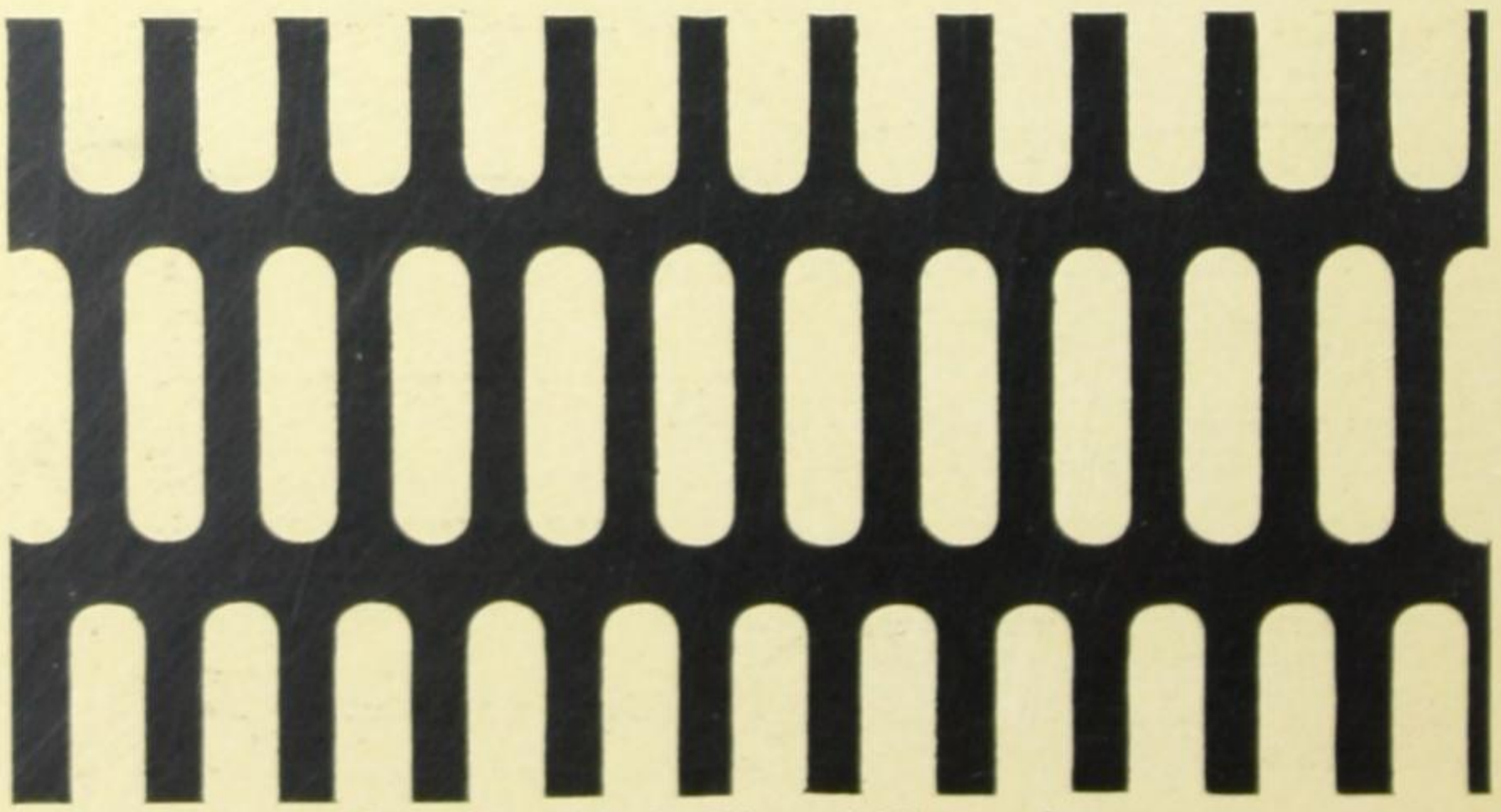
Reproduction of Perforations

For complete list of Perforations and Bars, see pages 62 and 63

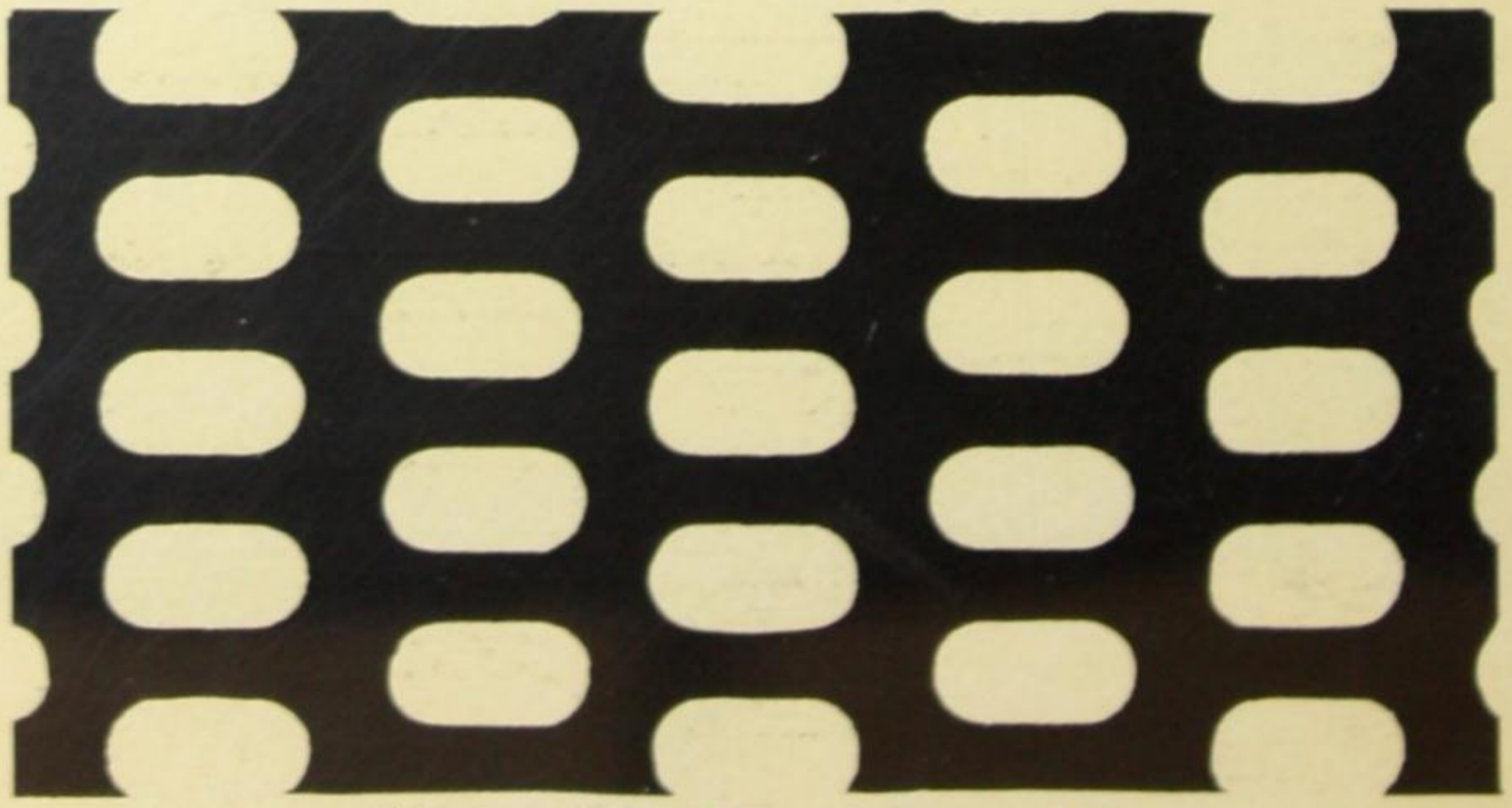
STANDARD PERFORATED SCREEN PLATES



$\frac{3}{16}$ inch x $\frac{9}{16}$ inch, Hit and Miss, endways



$\frac{3}{16}$ inch x $\frac{3}{4}$ inch, Hit and Miss, endways

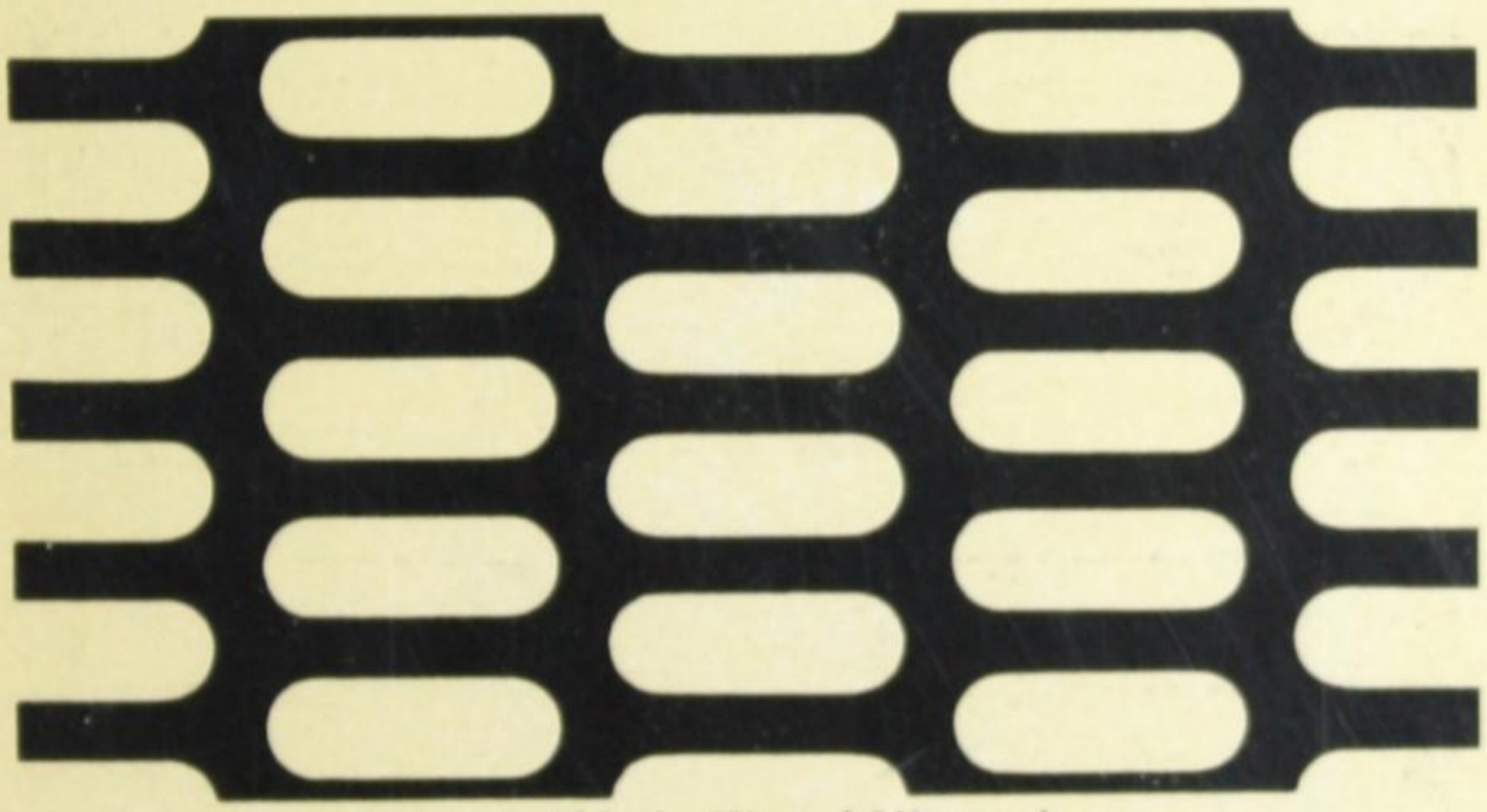


¼ inch x ½ inch, Hit and Miss, endways

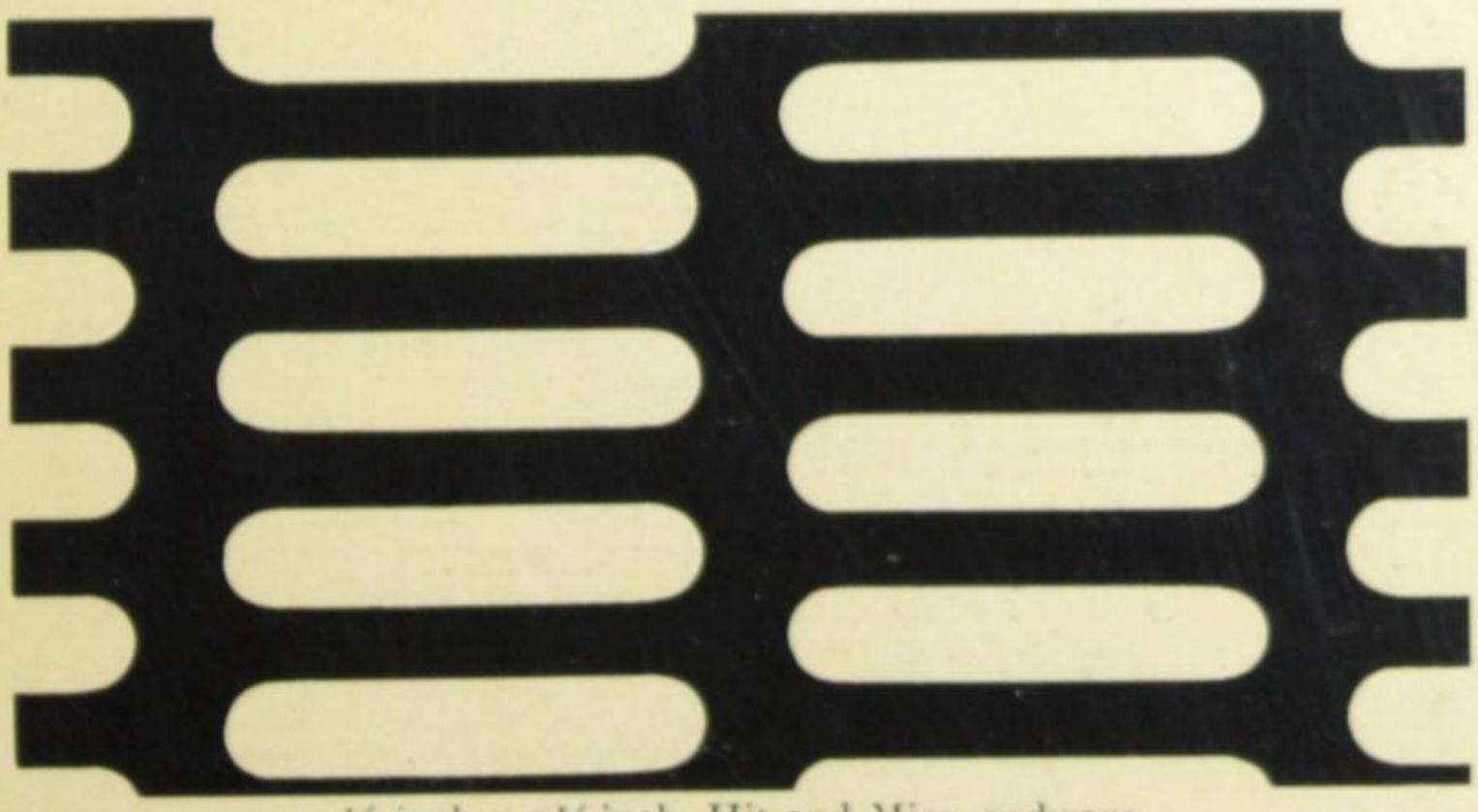
Reproduction of Perforations

For complete list of Perforations and Bars, see pages 62 and 63

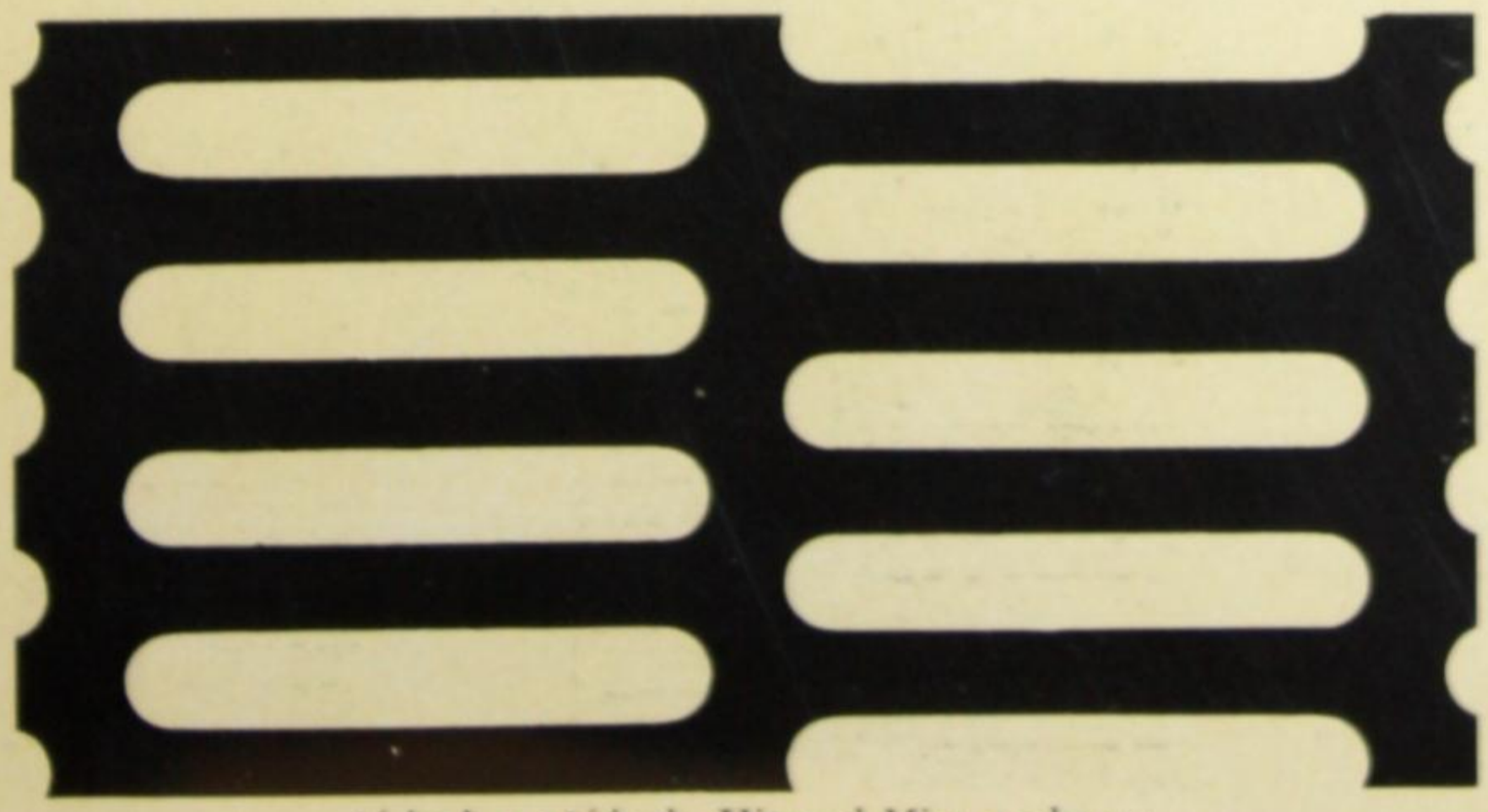
STANDARD PERFORATED SCREEN PLATES



¼ inch x ¾ inch, Hit and Miss, endways



¼ inch x 1¼ inch, Hit and Miss, endways

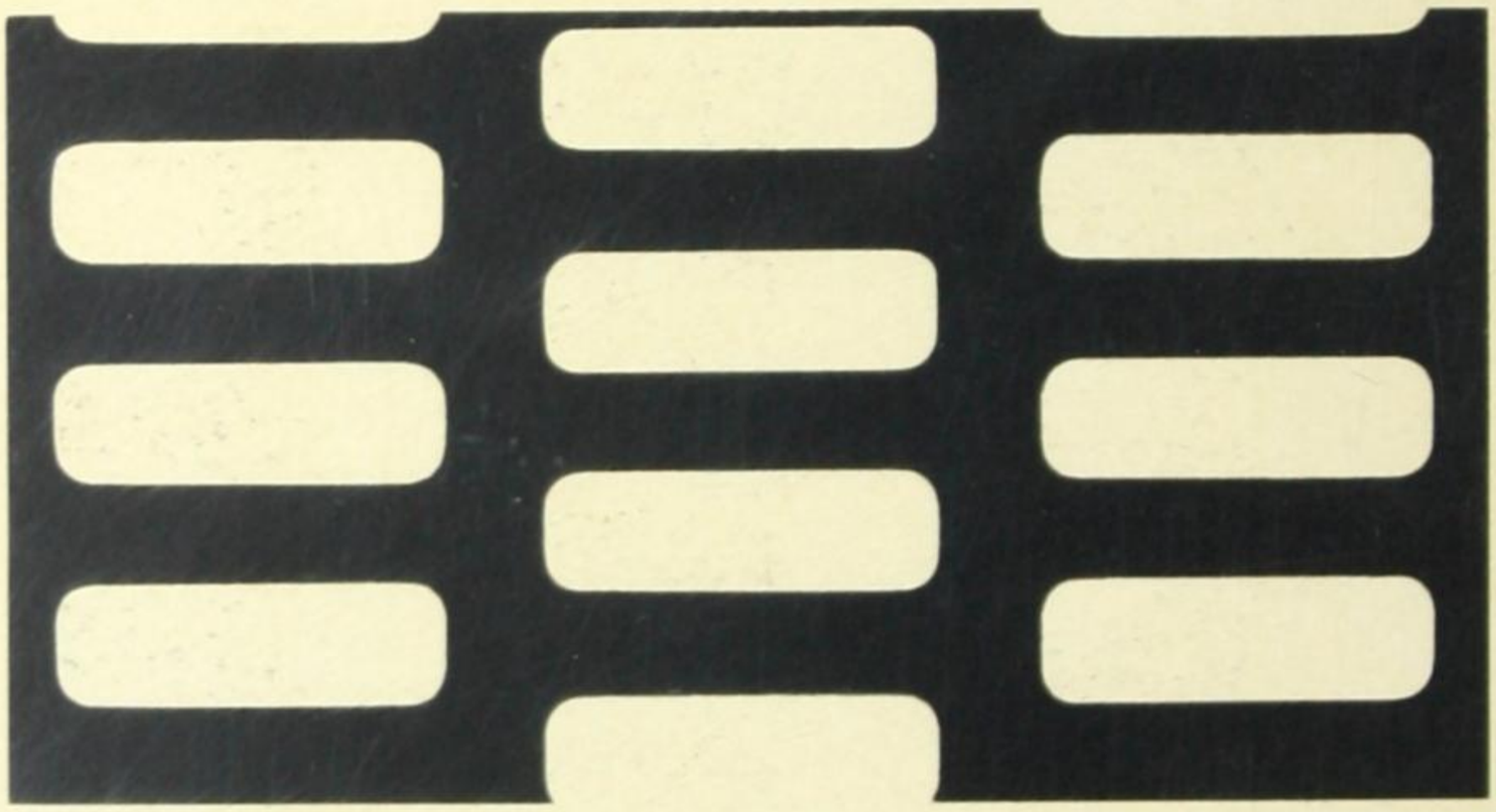


¼ inch x 1½ inch, Hit and Miss, endways

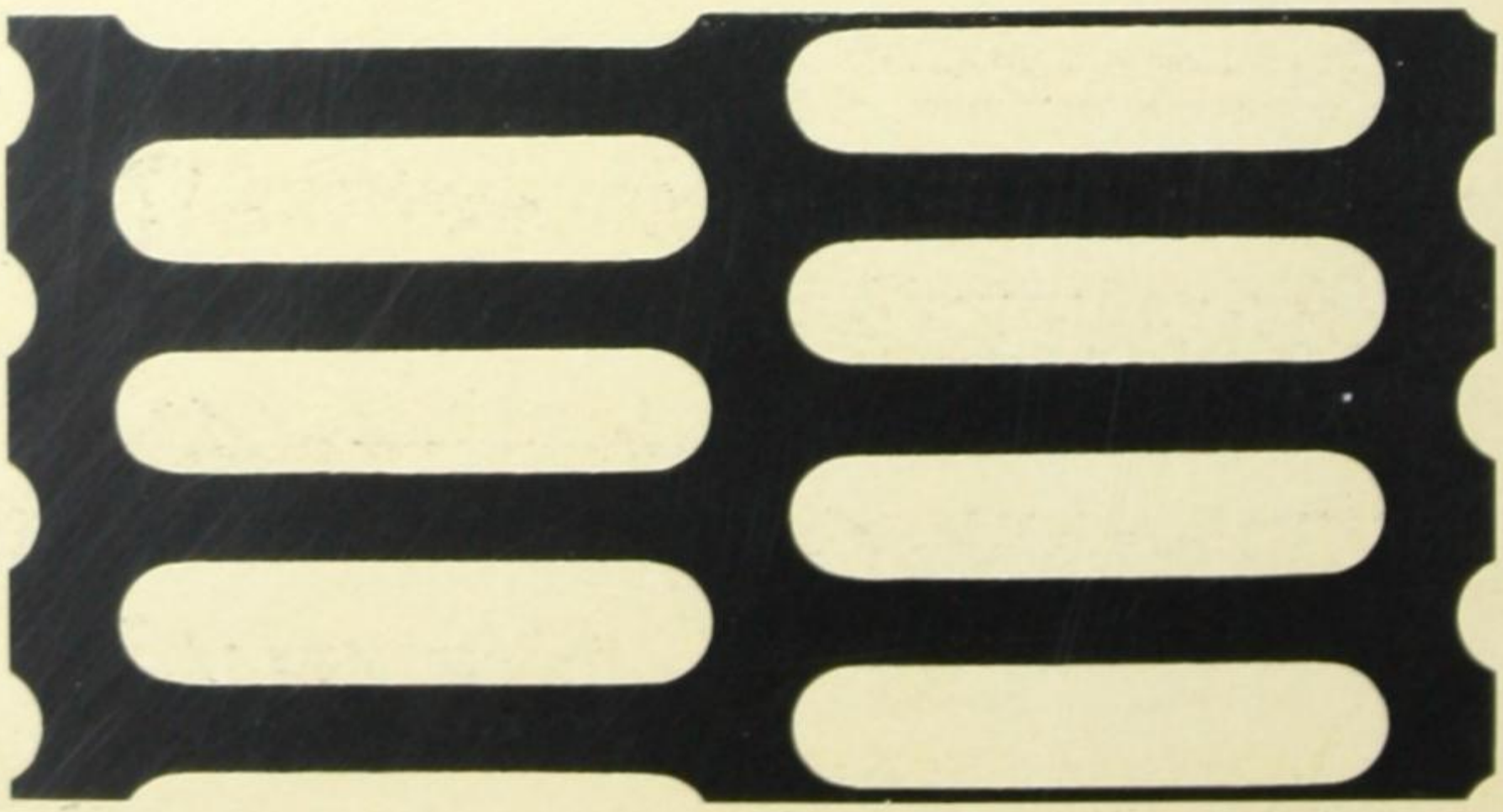
Reproduction of Perforations

For complete list of Perforations and Bars, see pages 62 and 63

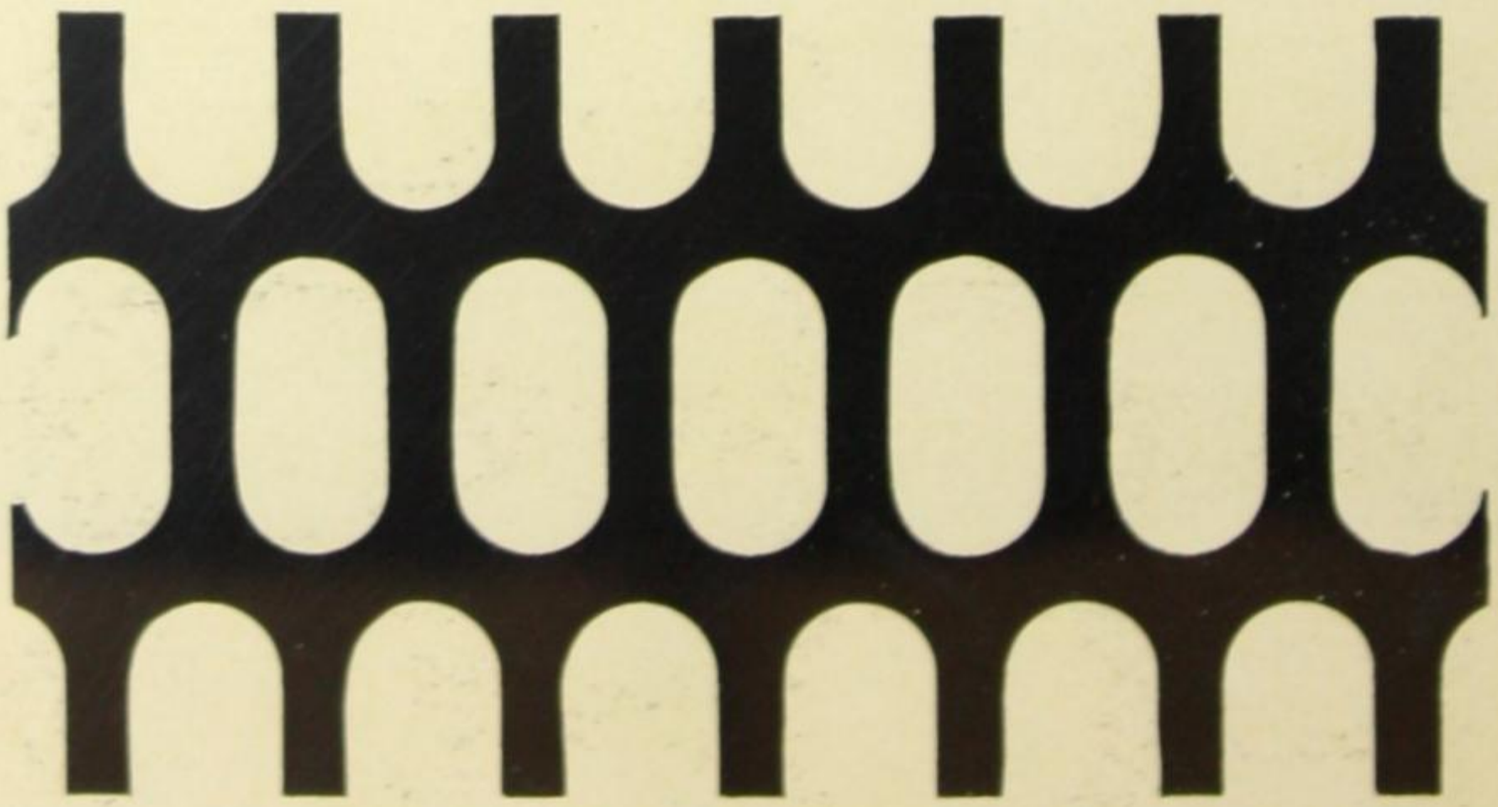
STANDARD PERFORATED SCREEN PLATES



$\frac{5}{16}$ inch x 1 inch, Hit and Miss, endways



$\frac{5}{16}$ inch x 1½ inch, Hit and Miss, endways

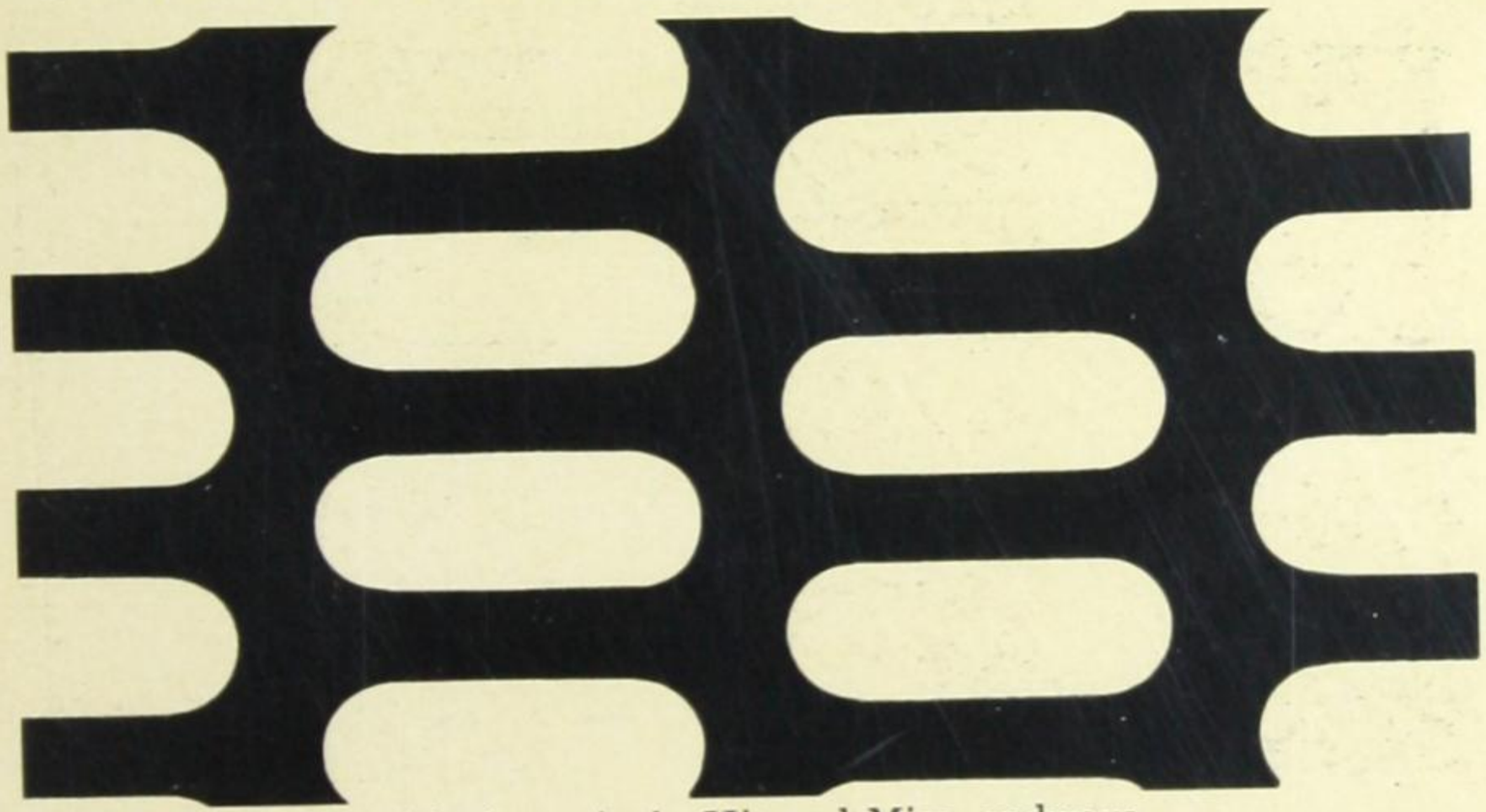


⅜ inch x ¾ inch, Hit and Miss, endways

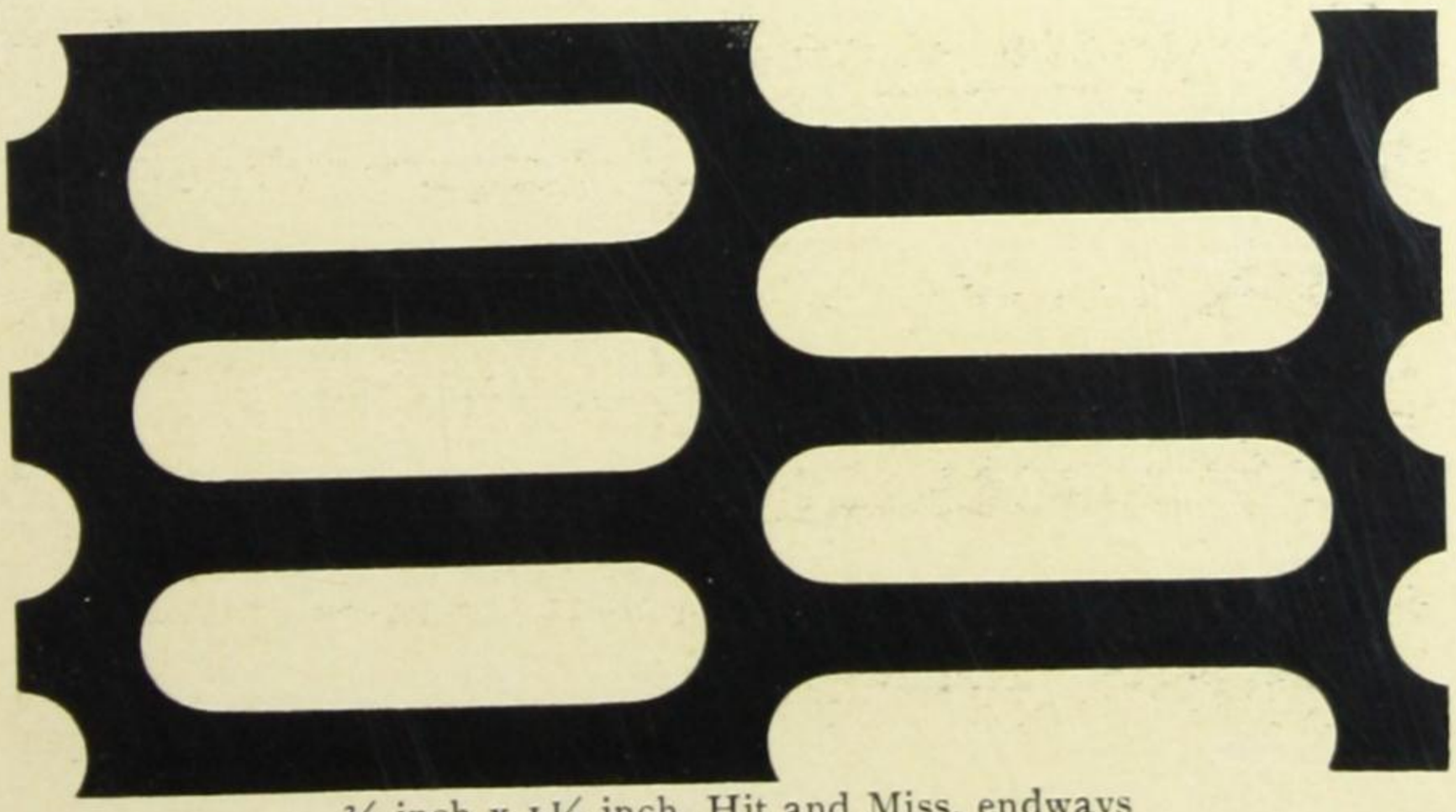
Reproduction of Perforations

For complete list of Perforations and Bars, see pages 62 and 63

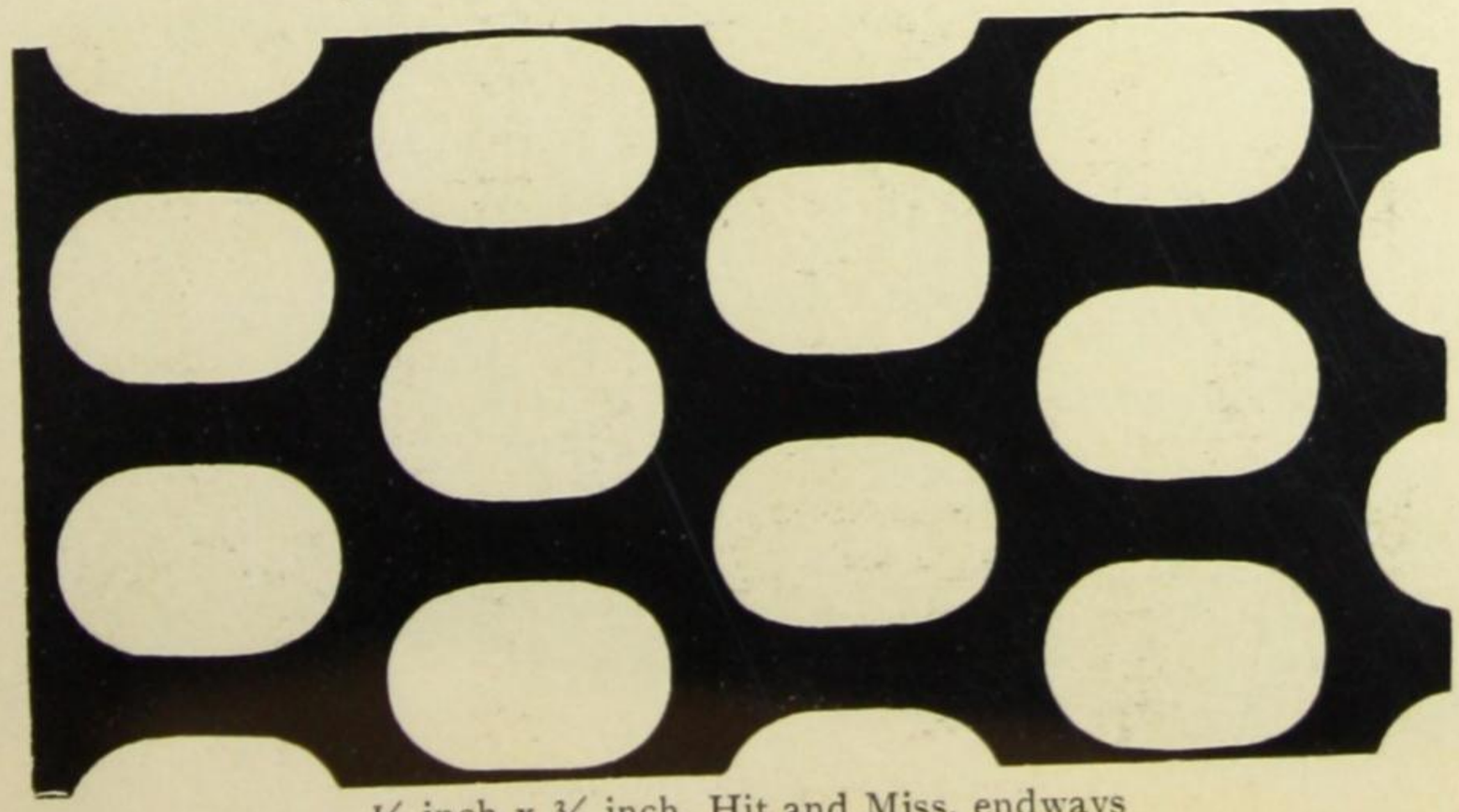
STANDARD PERFORATED SCREEN PLATES



⅜ inch x 1 inch, Hit and Miss, endways



⅜ inch x 1½ inch, Hit and Miss, endways

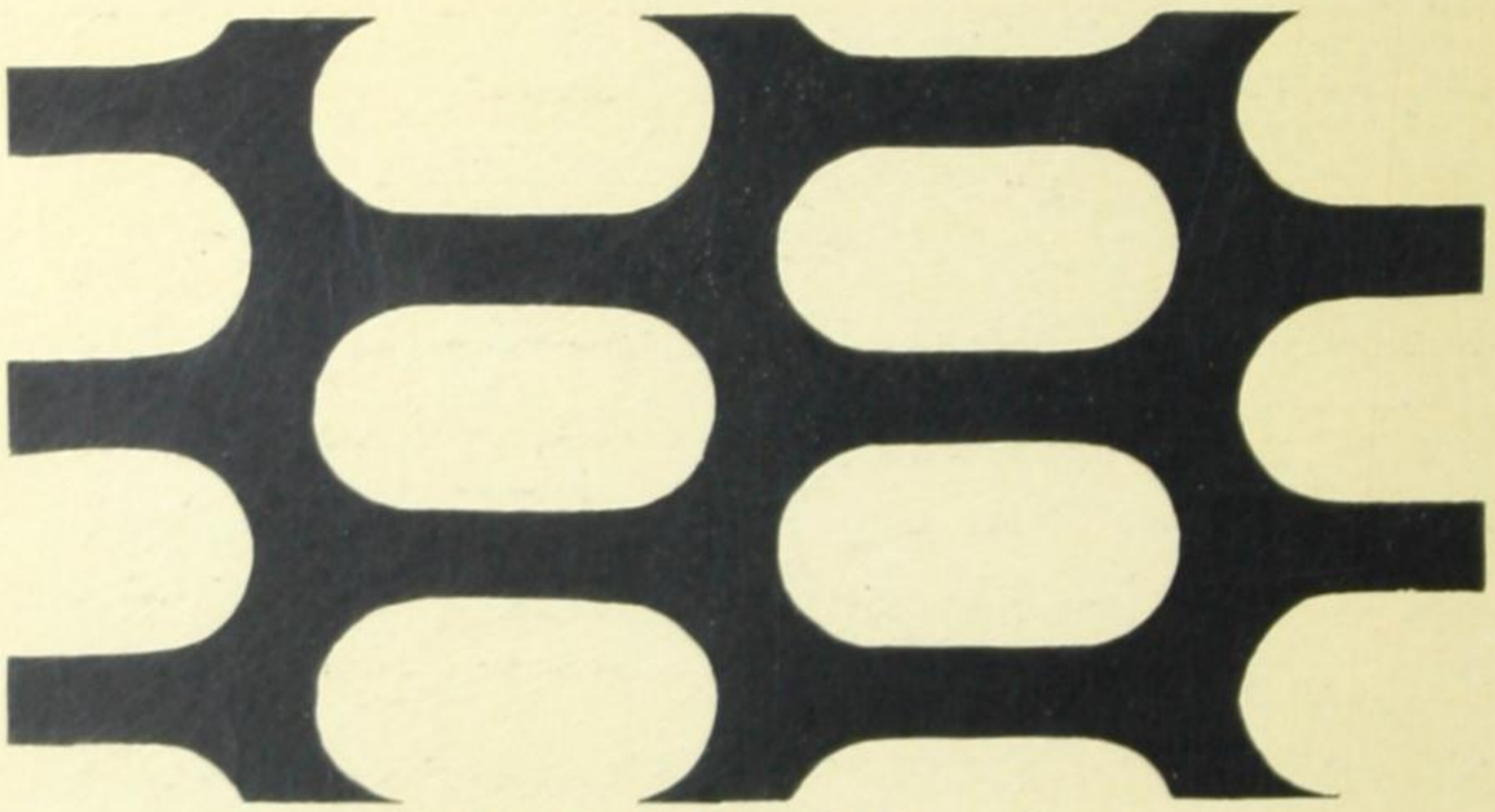


½ inch x ¾ inch, Hit and Miss, endways

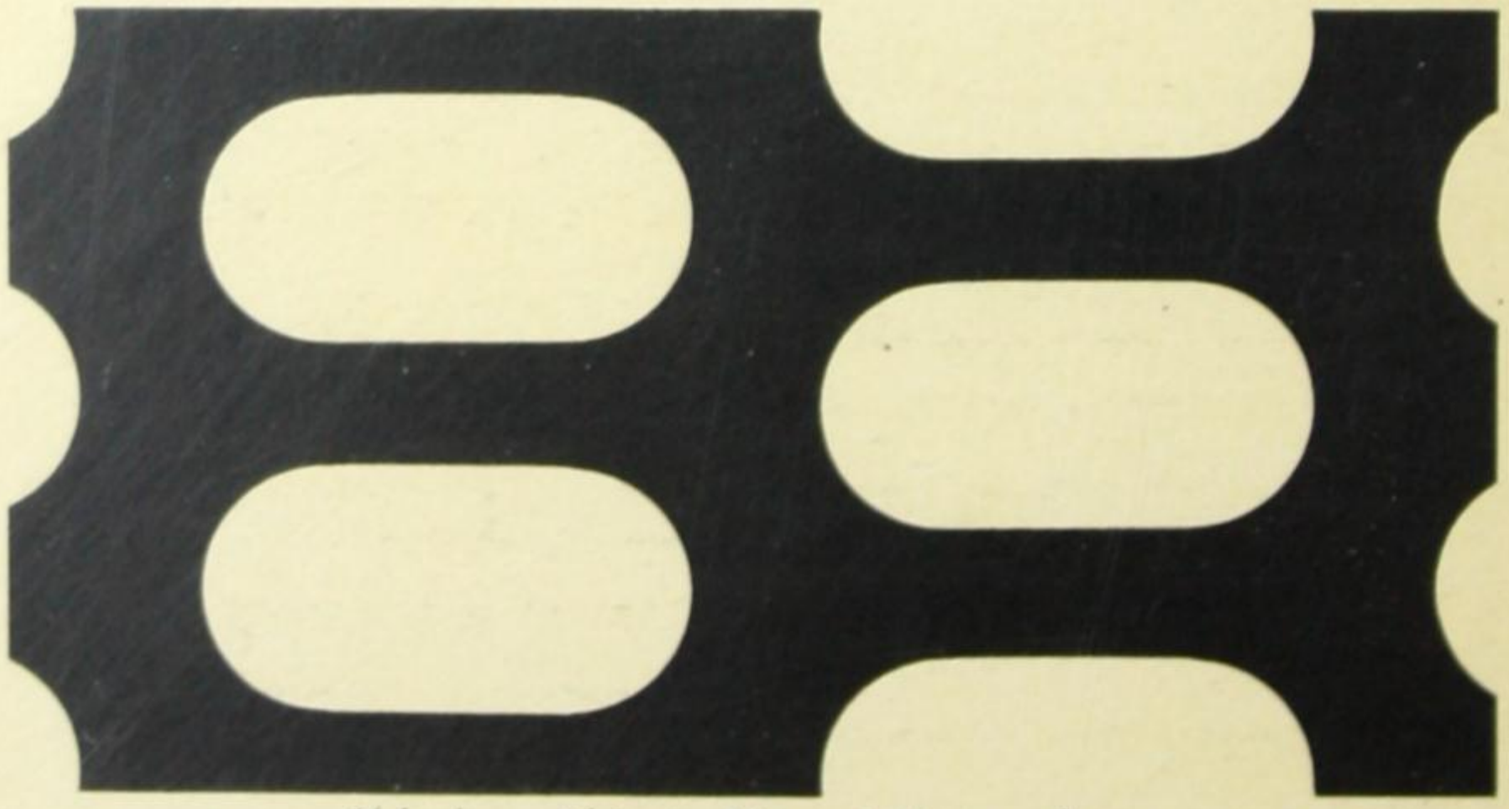
Reproduction of Perforations

For complete list of Perforations and Bars, see pages 62 and 63

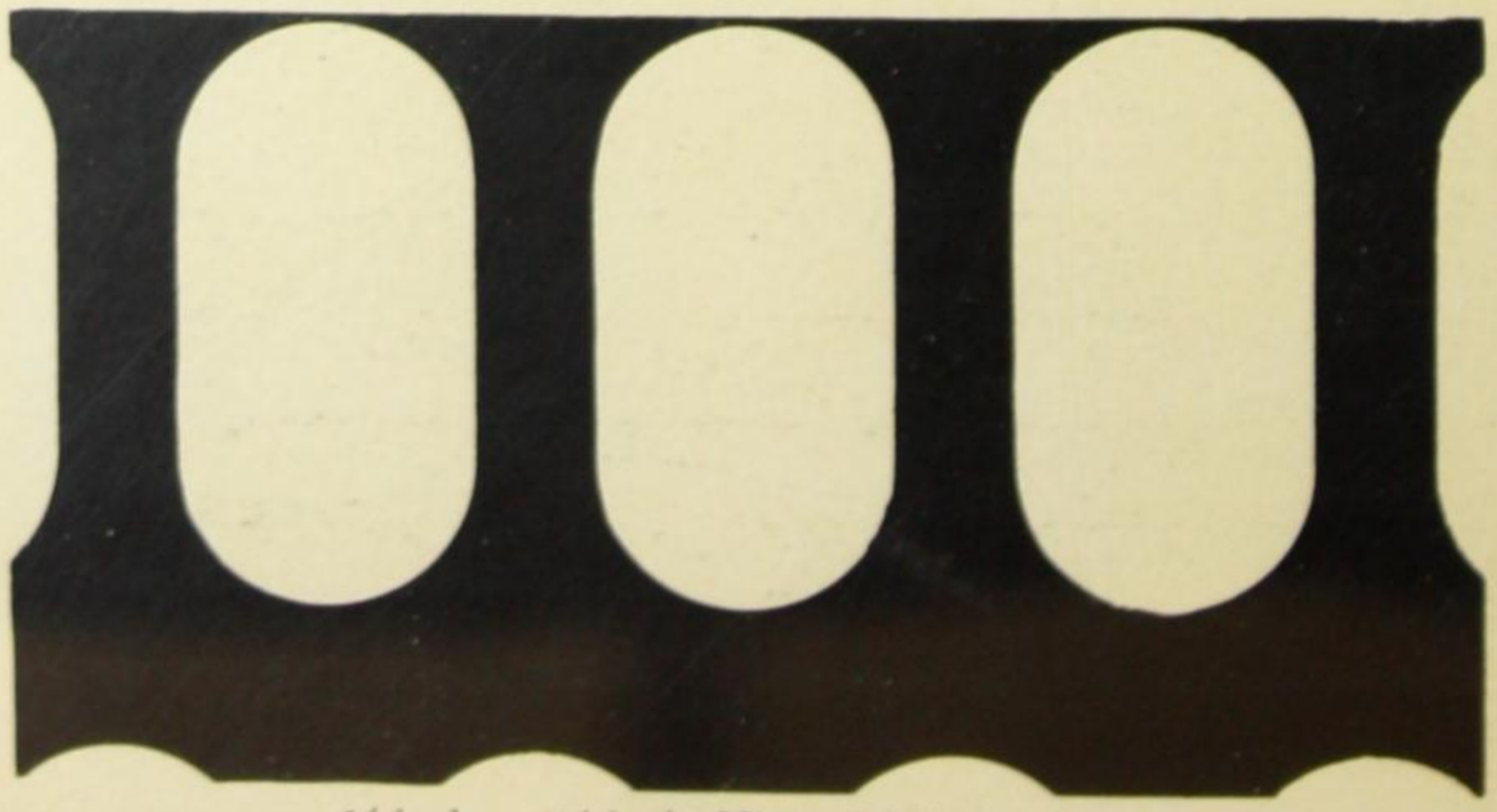
STANDARD PERFORATED SCREEN PLATES



½ inch x 1 inch, Hit and Miss, endways



⅝ inch x 1¼ inch, Hit and Miss, endways

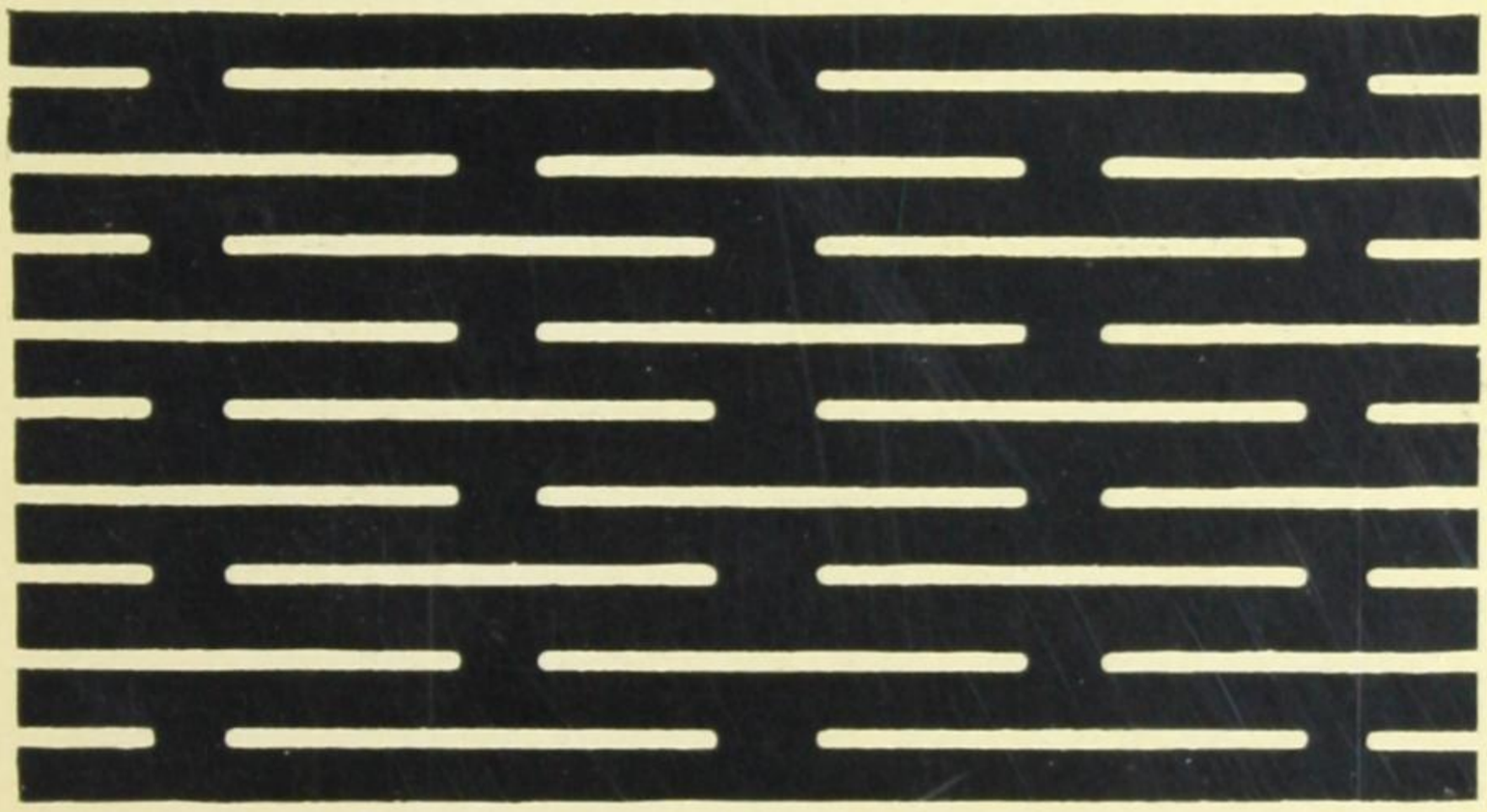


¾ inch x 1½ inch, Hit and Miss, endways

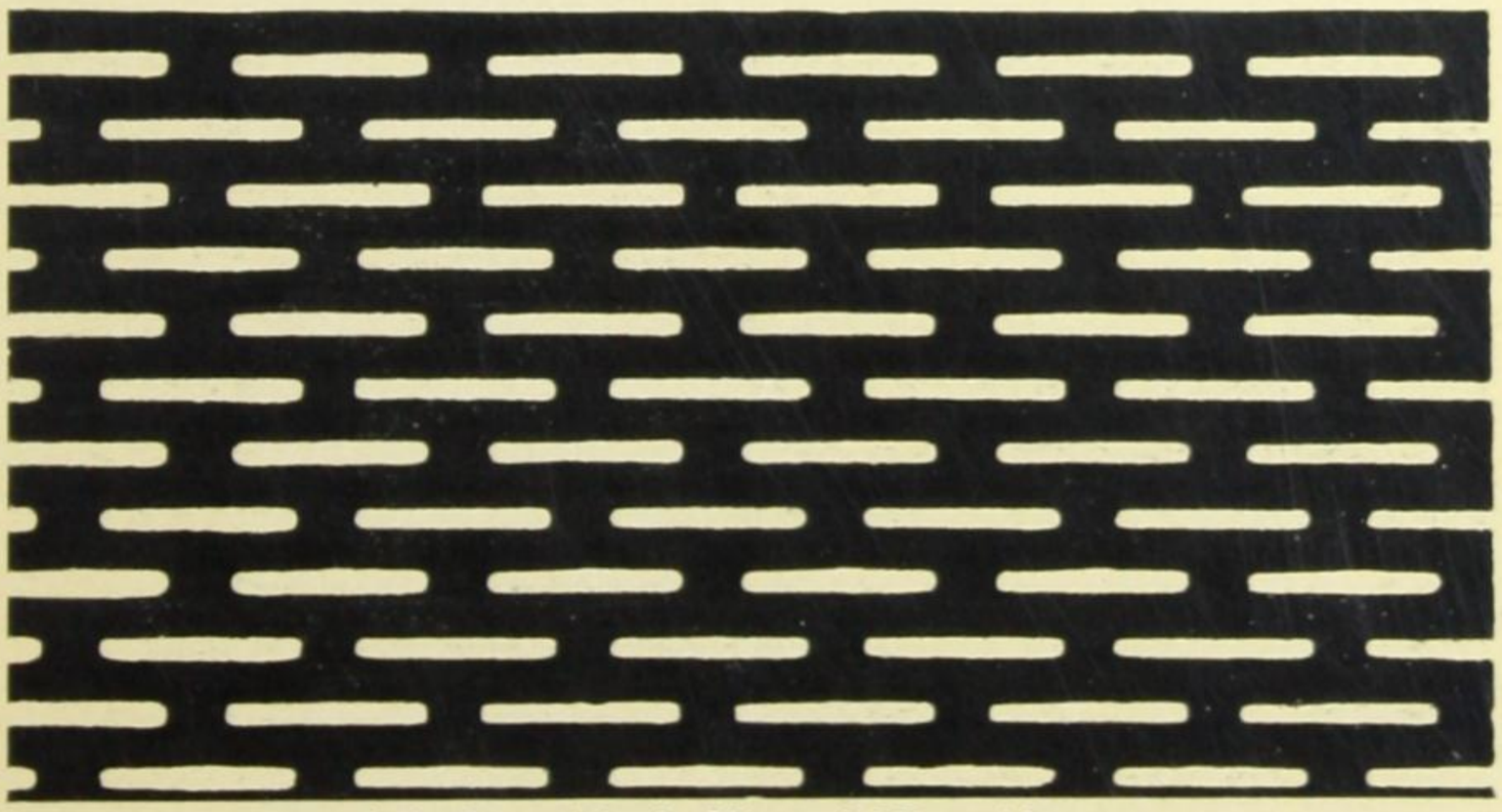
Reproduction of Perforations

For complete list of Perforations and Bars, see pages 62 and 63

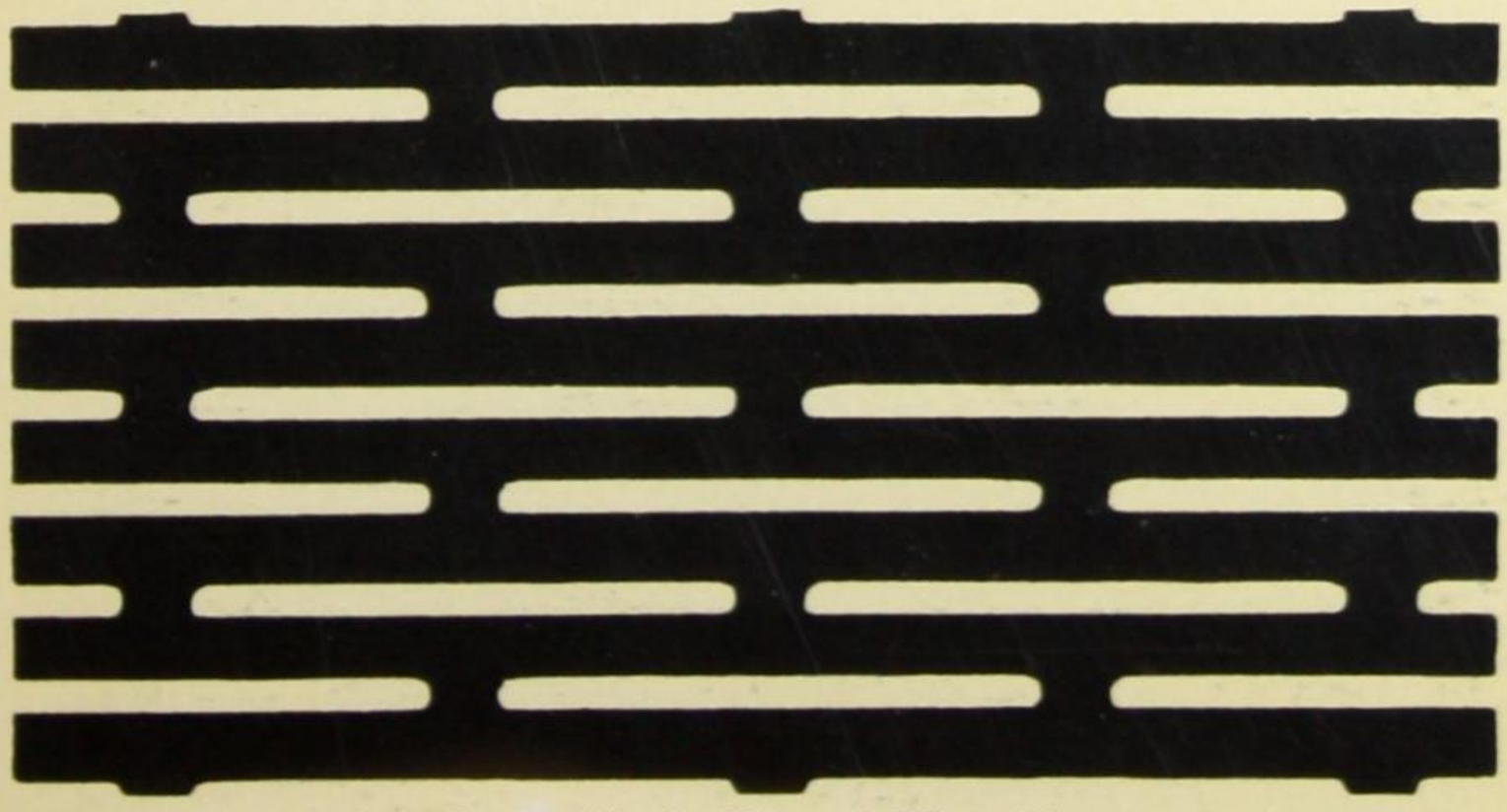
STANDARD PERFORATED SCREEN PLATES



$\frac{3}{64}$ inch x 1 ¼ inch, Hit and Miss, sideways



$\frac{1}{16}$ inch x ½ inch, Hit and Miss, sideways

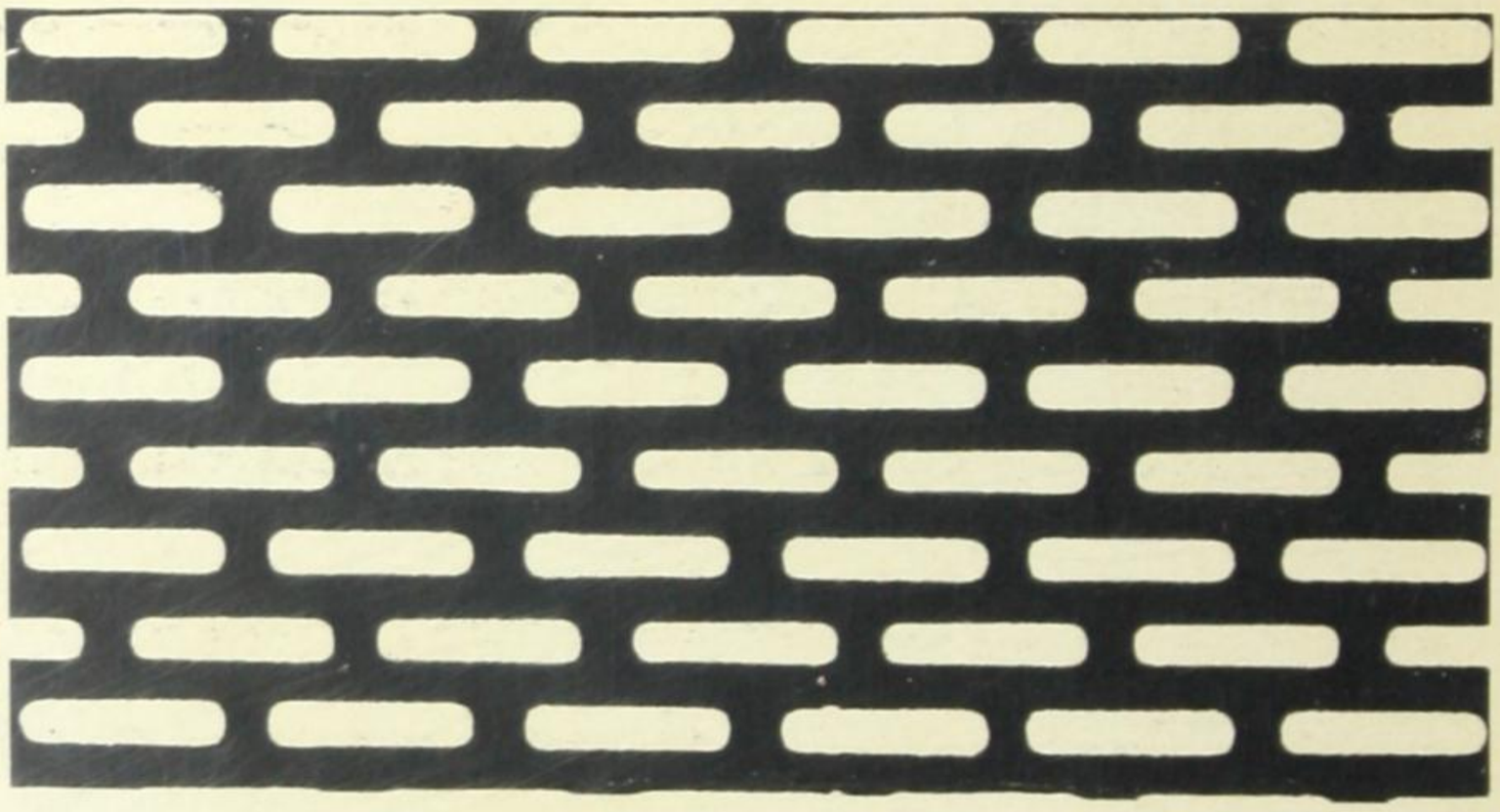


$\frac{1}{14}$ inch x 1 ⅜ inch, Hit and Miss, sideways

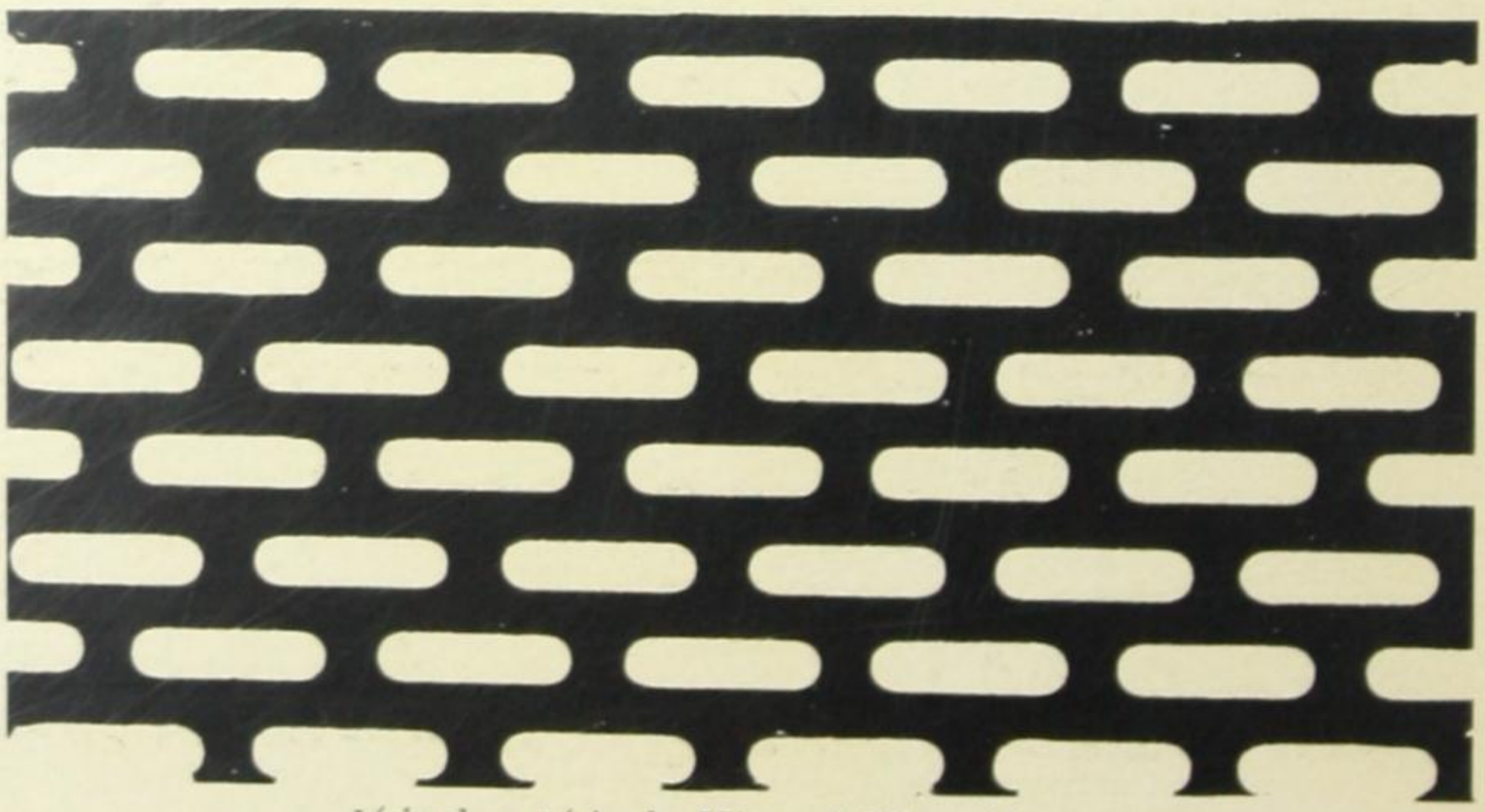
Reproduction of Perforations

For complete list of Perforations and Bars, see page 61

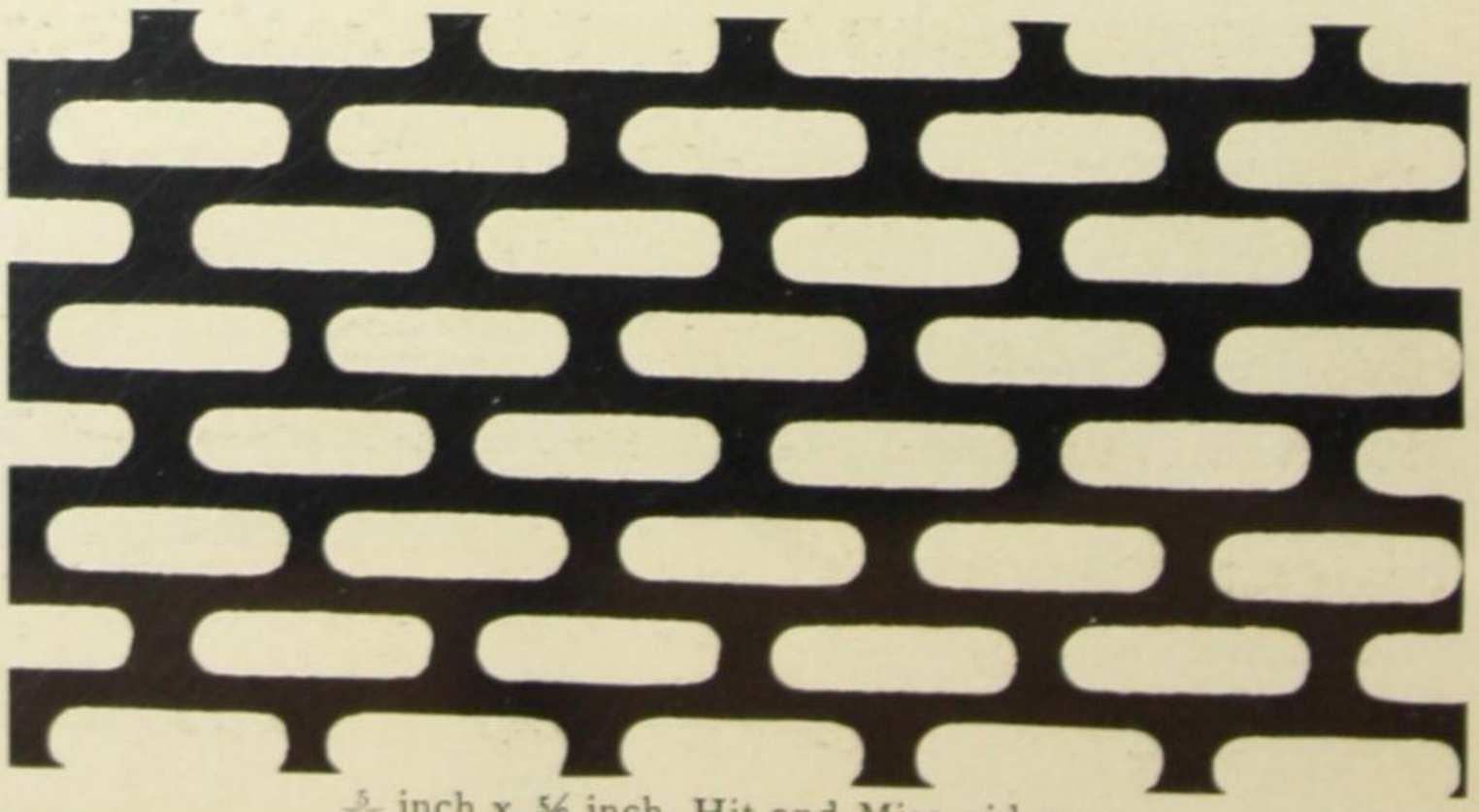
STANDARD PERFORATED SCREEN PLATES



$\frac{3}{32}$ inch x ½ inch, Hit and Miss, sideways



⅛ inch x ½ inch, Hit and Miss, sideways

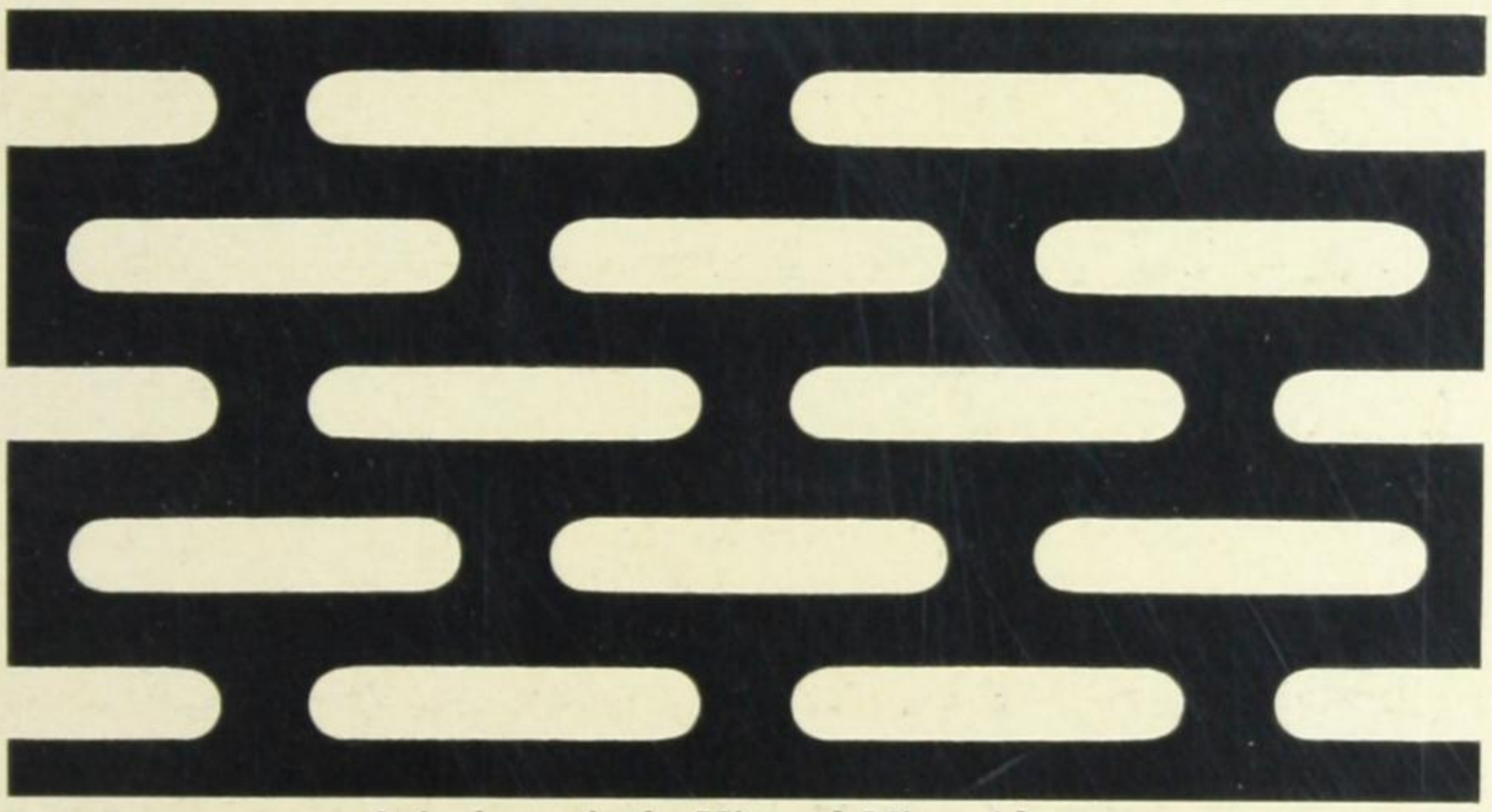


$\frac{5}{32}$ inch x ⅝ inch, Hit and Miss, sideways

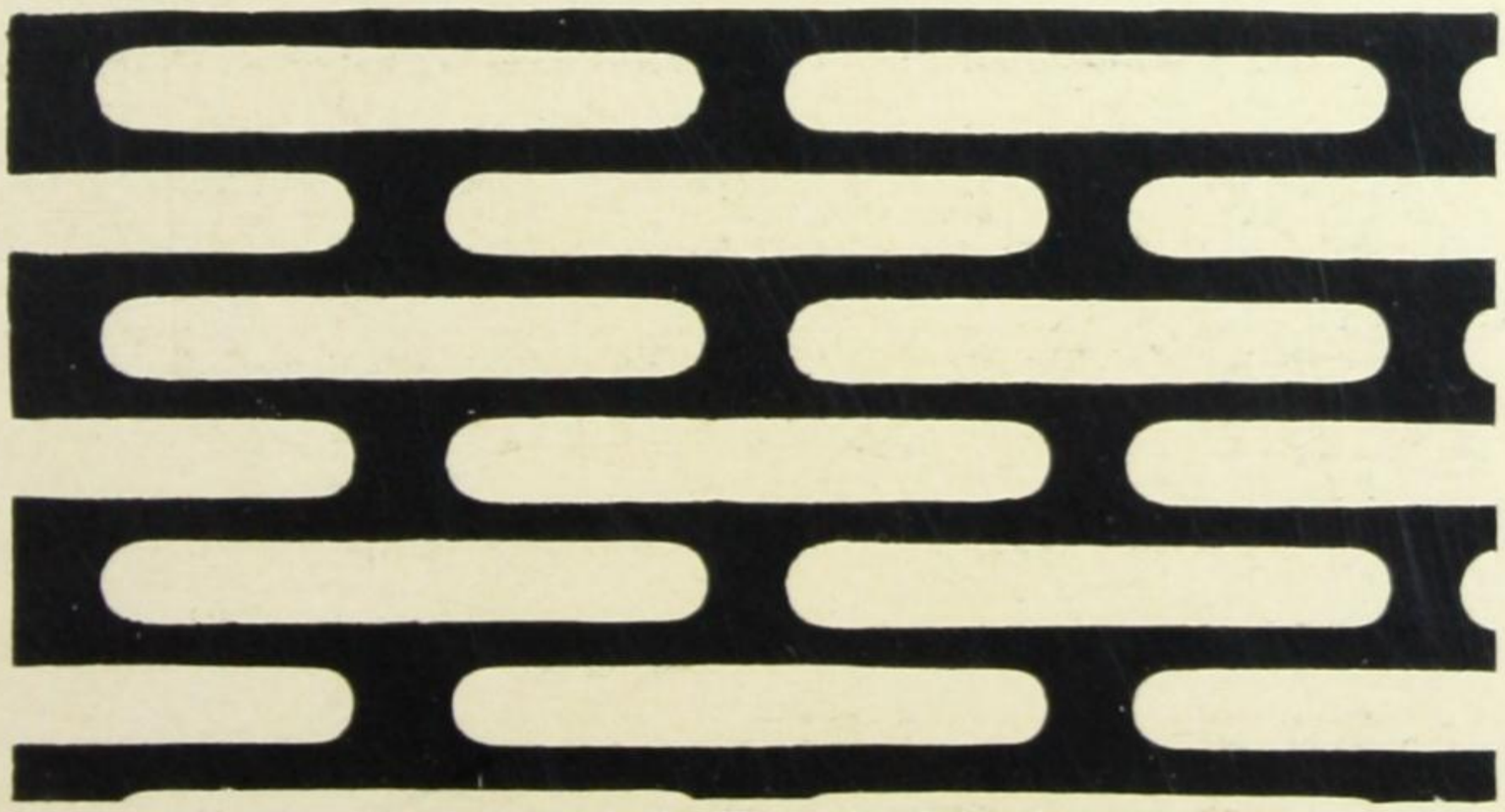
Reproduction of Perforations

For complete list of Perforations and Bars, see page 61

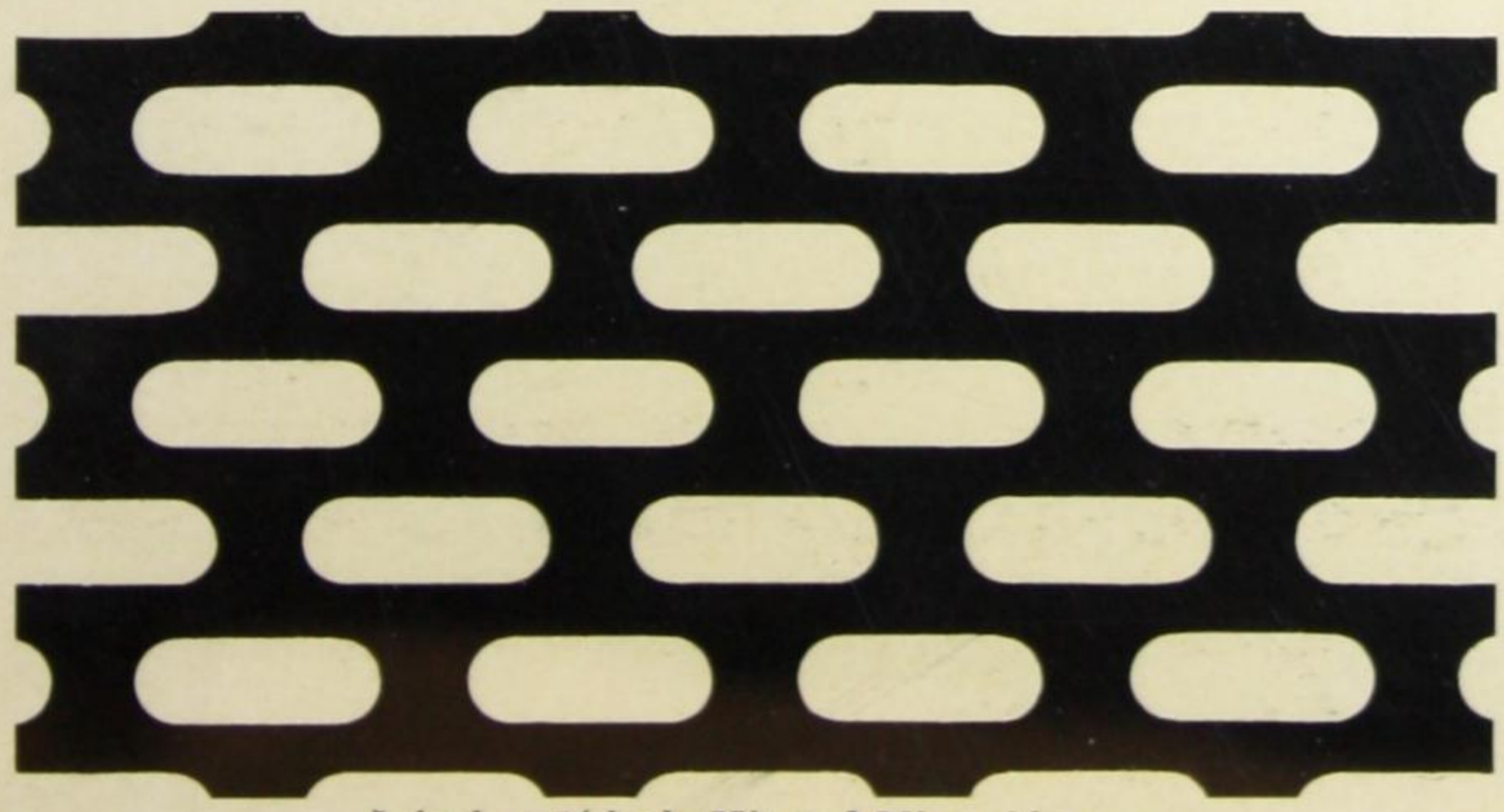
STANDARD PERFORATED SCREEN PLATES



$\frac{3}{16}$ inch x 1 inch, Hit and Miss, sideways



$\frac{3}{16}$ inch x 1½ inch, Hit and Miss, sideways

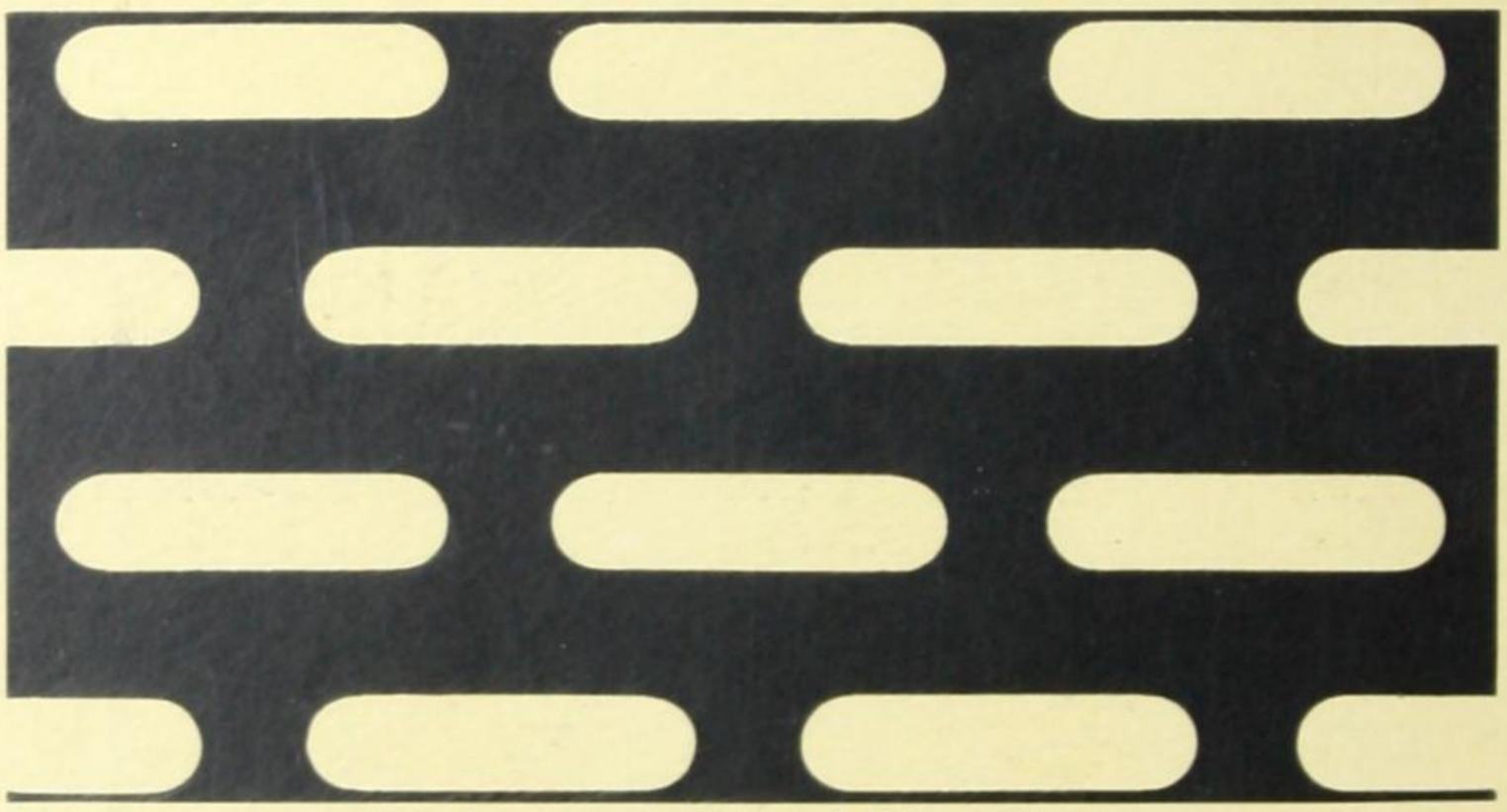


$\frac{7}{32}$ inch x $\frac{5}{8}$ inch, Hit and Miss, sideways

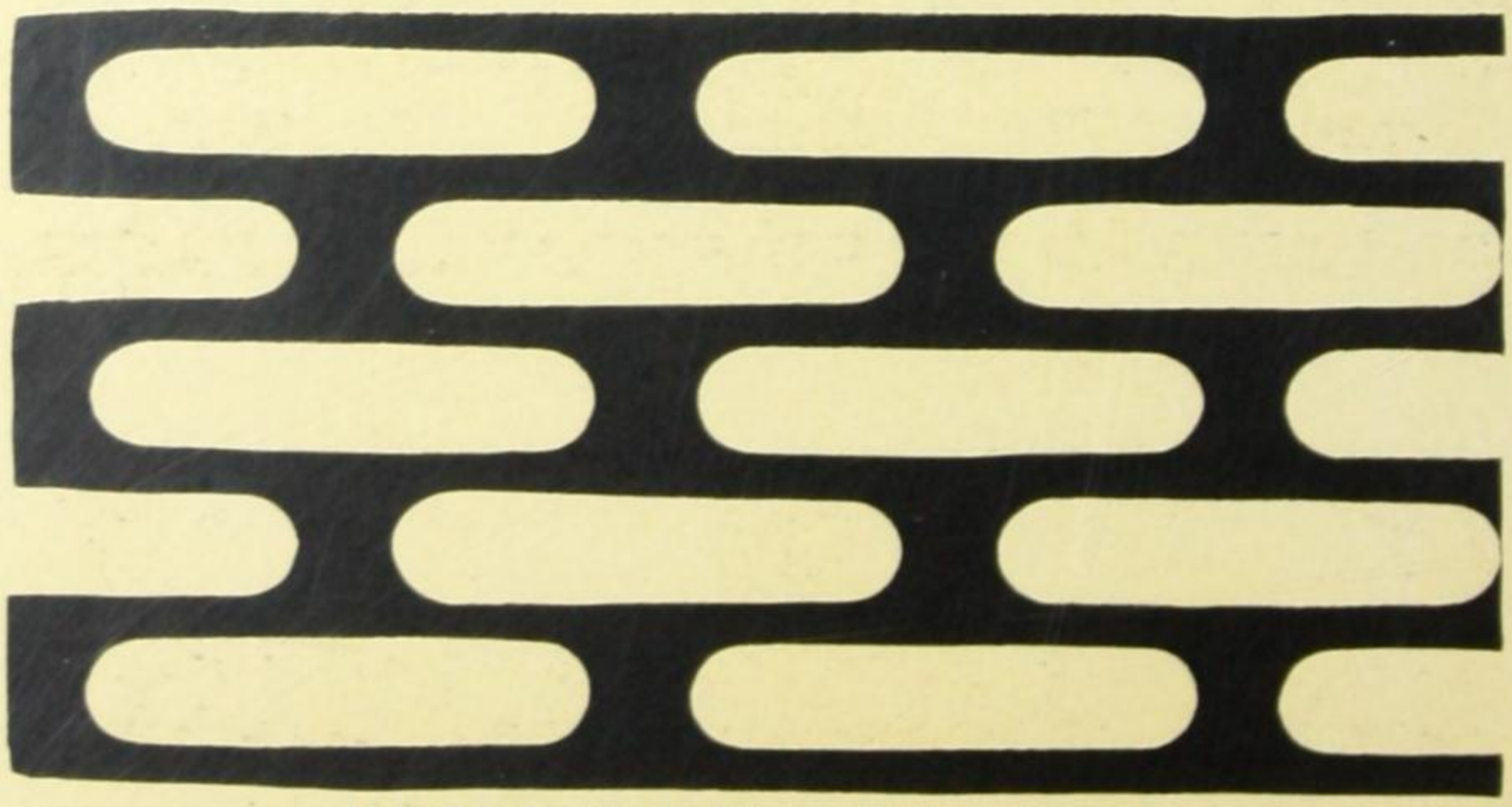
Reproduction of Perforations

For complete list of Perforations and Bars, see page 61

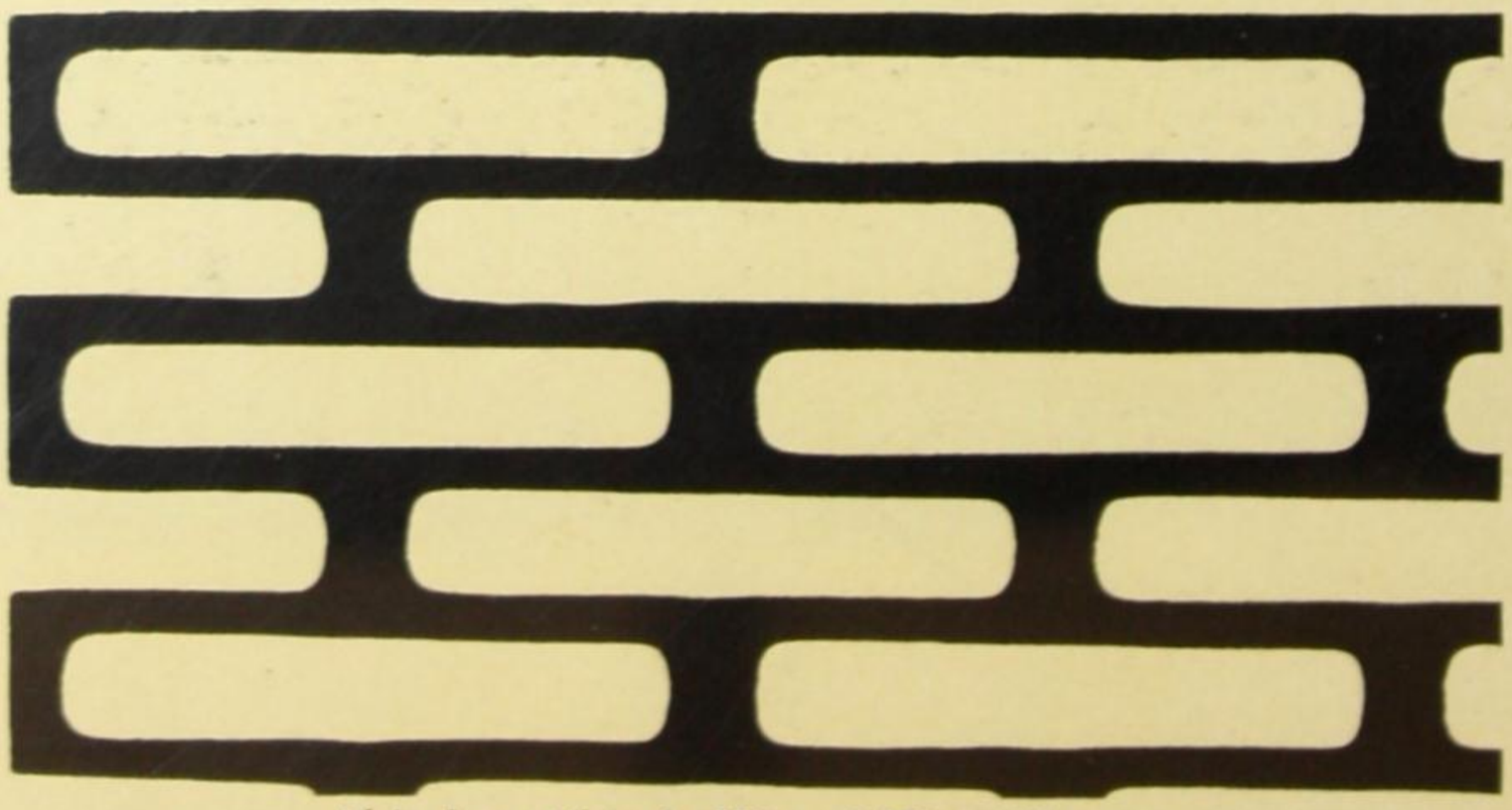
STANDARD PERFORATED SCREEN PLATES



¼ inch x 1 inch, Hit and Miss, sideways



¼ inch x 1 ¼ inch, Hit and Miss, sideways

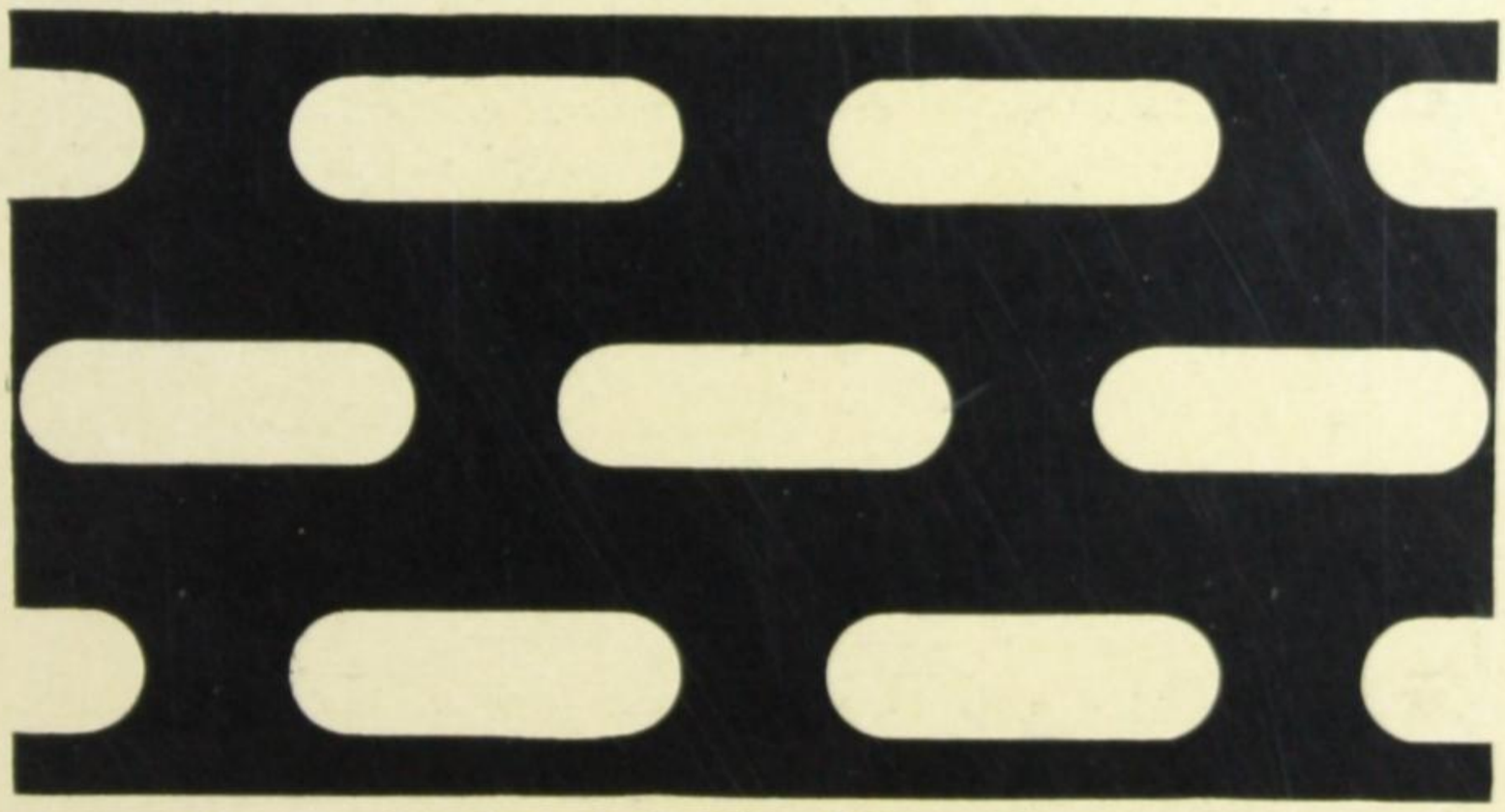


¼ inch x 1 ½ inch, Hit and Miss, sideways

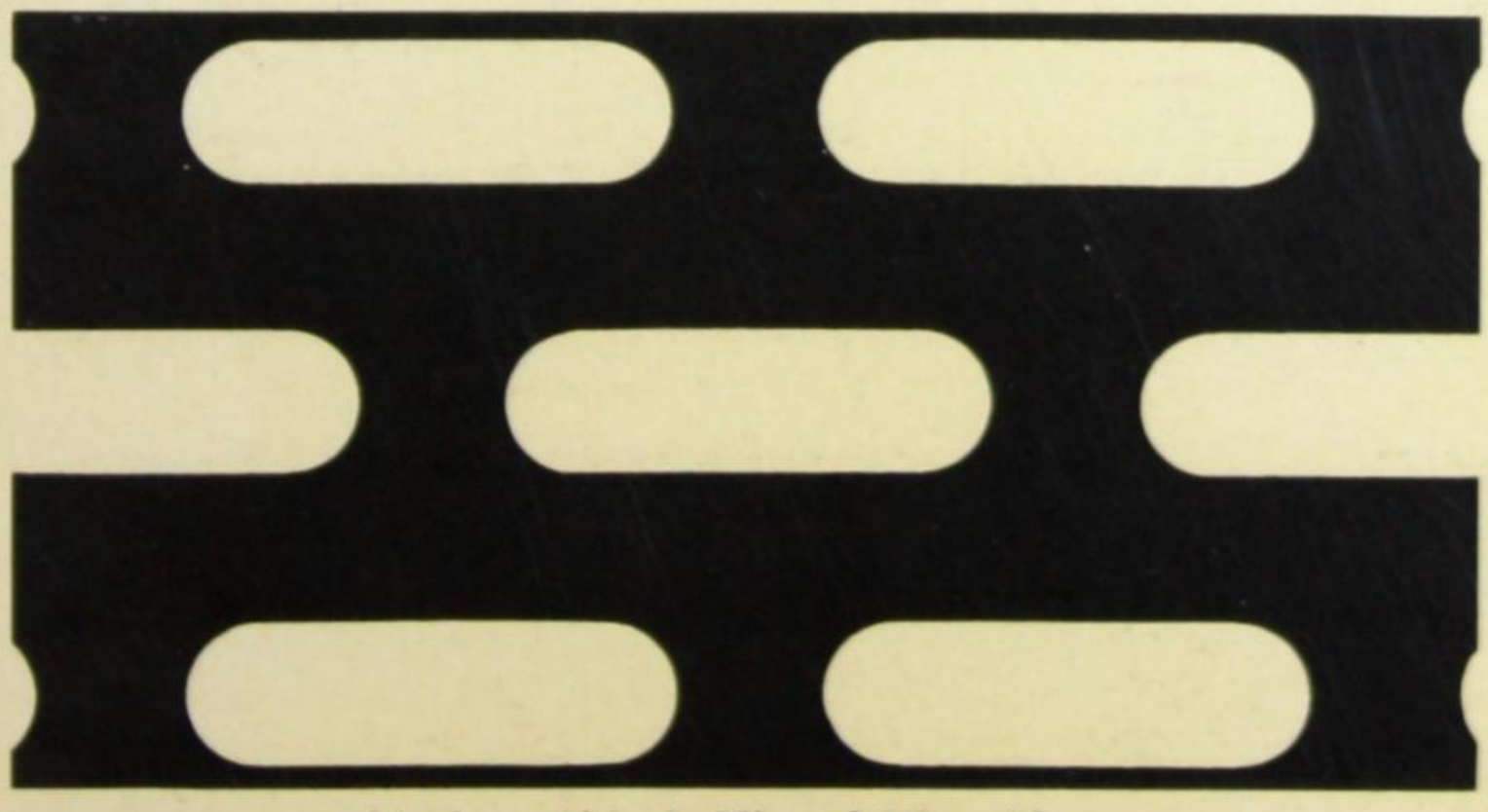
Reproduction of Perforations

For complete list of Perforations and Bars, see page 61

STANDARD PERFORATED SCREEN PLATES



$\frac{5}{16}$ inch x 1 inch, Hit and Miss, sideways

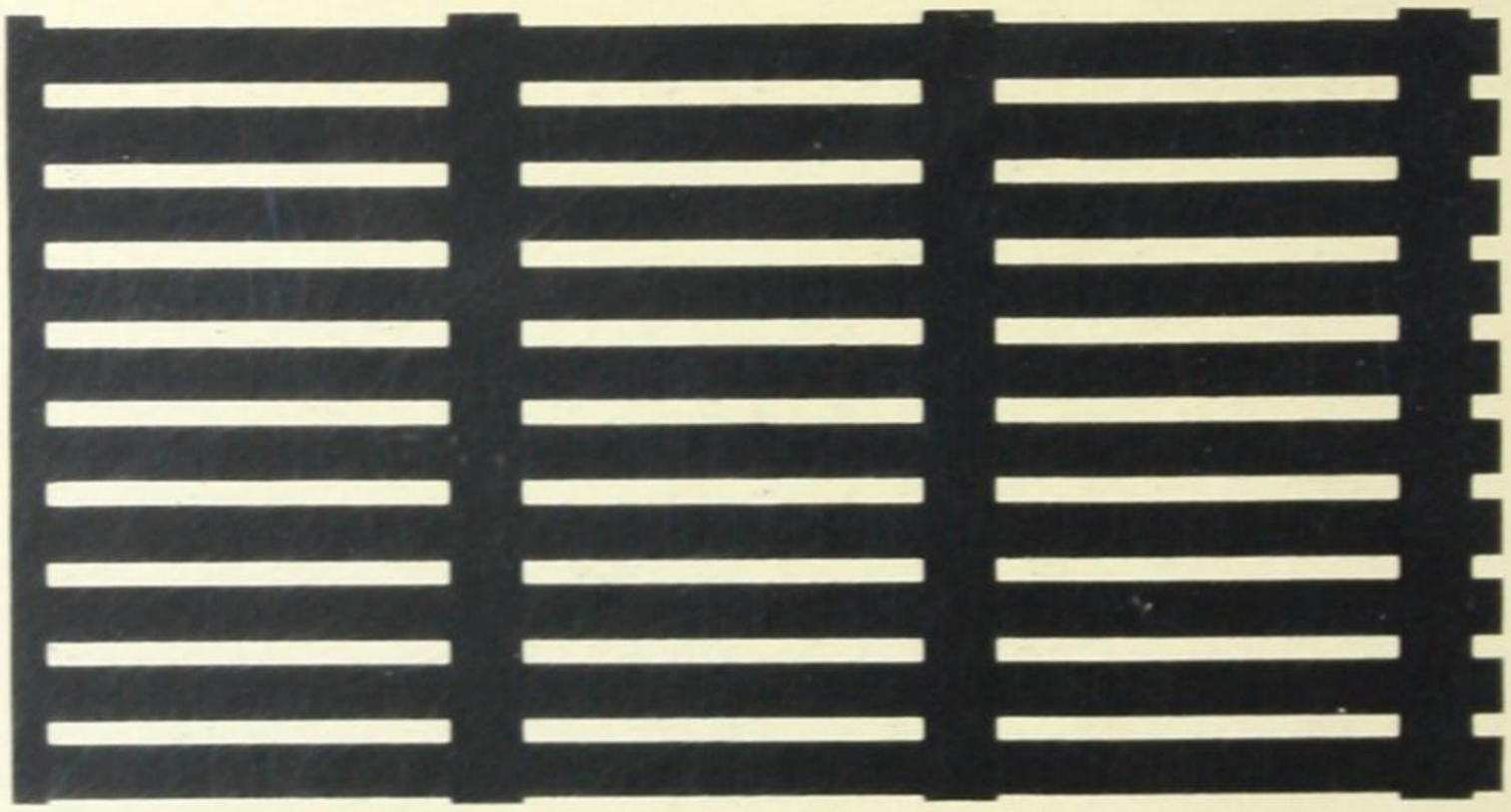


$\frac{3}{8}$ inch x 1 $\frac{1}{4}$ inch, Hit and Miss, sideways

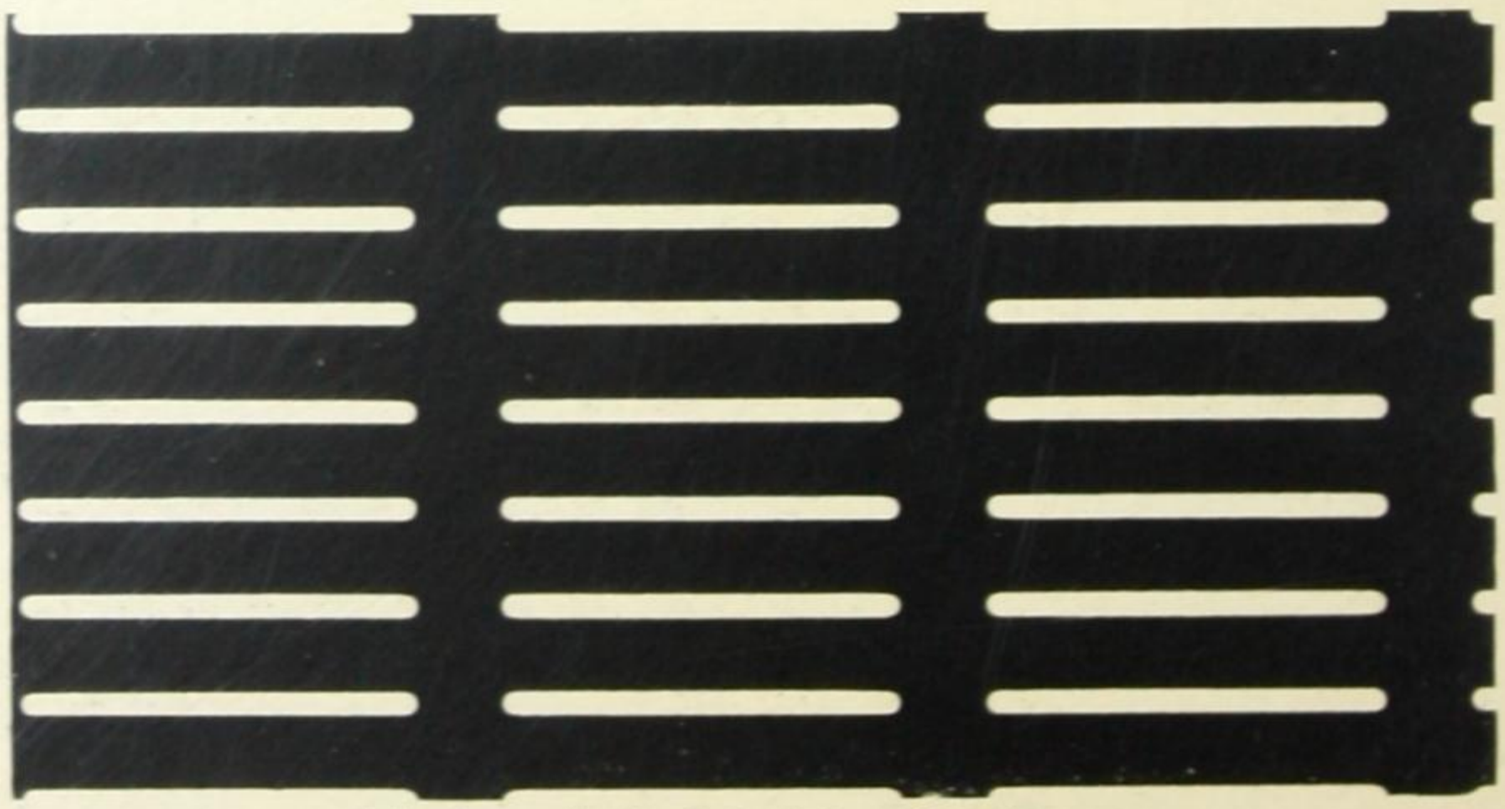
Reproduction of Perforations

For complete list of Perforations and Bars, see page 61

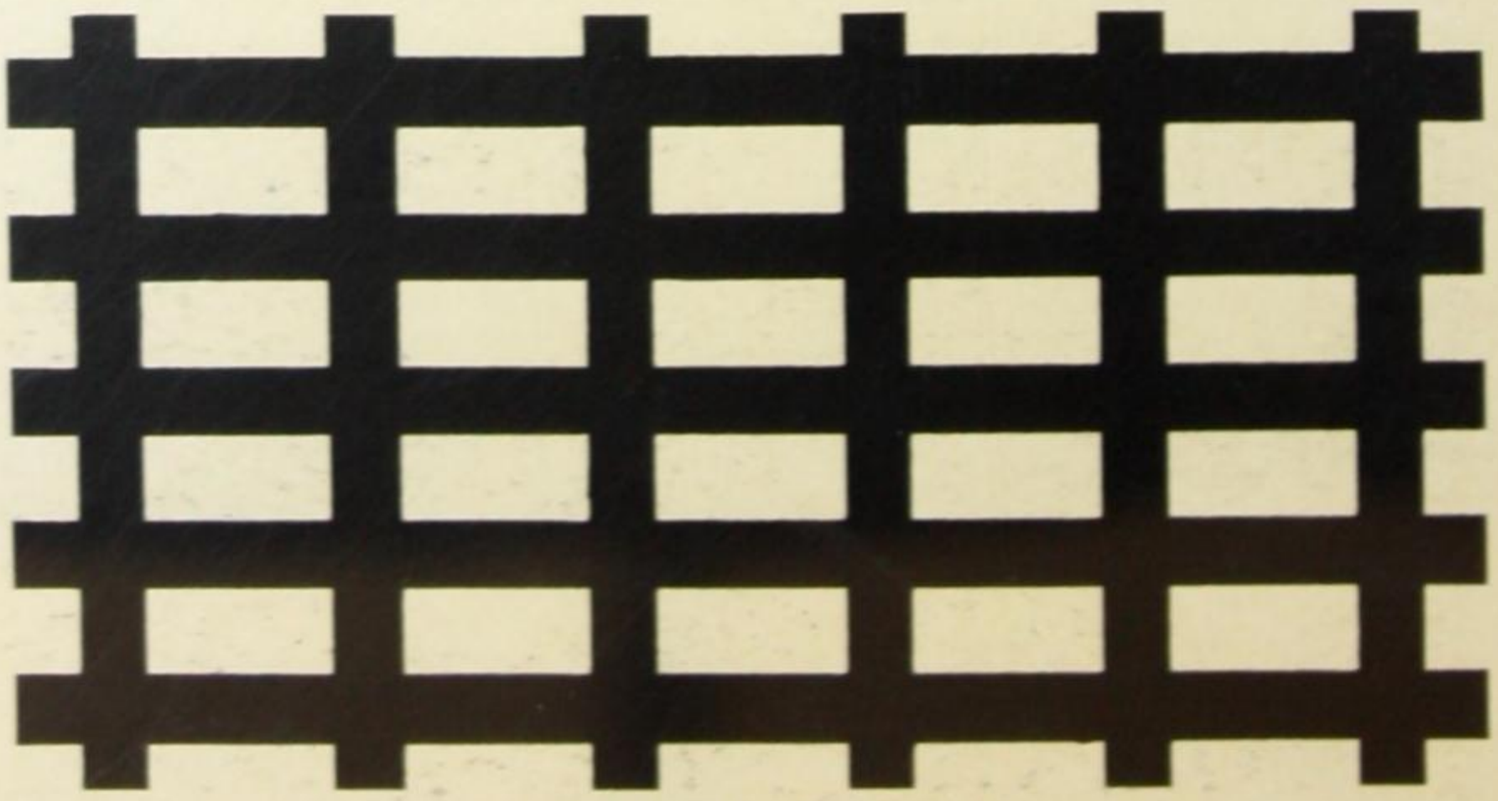
STANDARD PERFORATED SCREEN PLATES



$\frac{1}{16}$ inch x 1 inch, $\frac{1}{8}$ inch bar, Straight



$\frac{1}{16}$ inch x 1 inch, $\frac{3}{16}$ inch bar, Straight

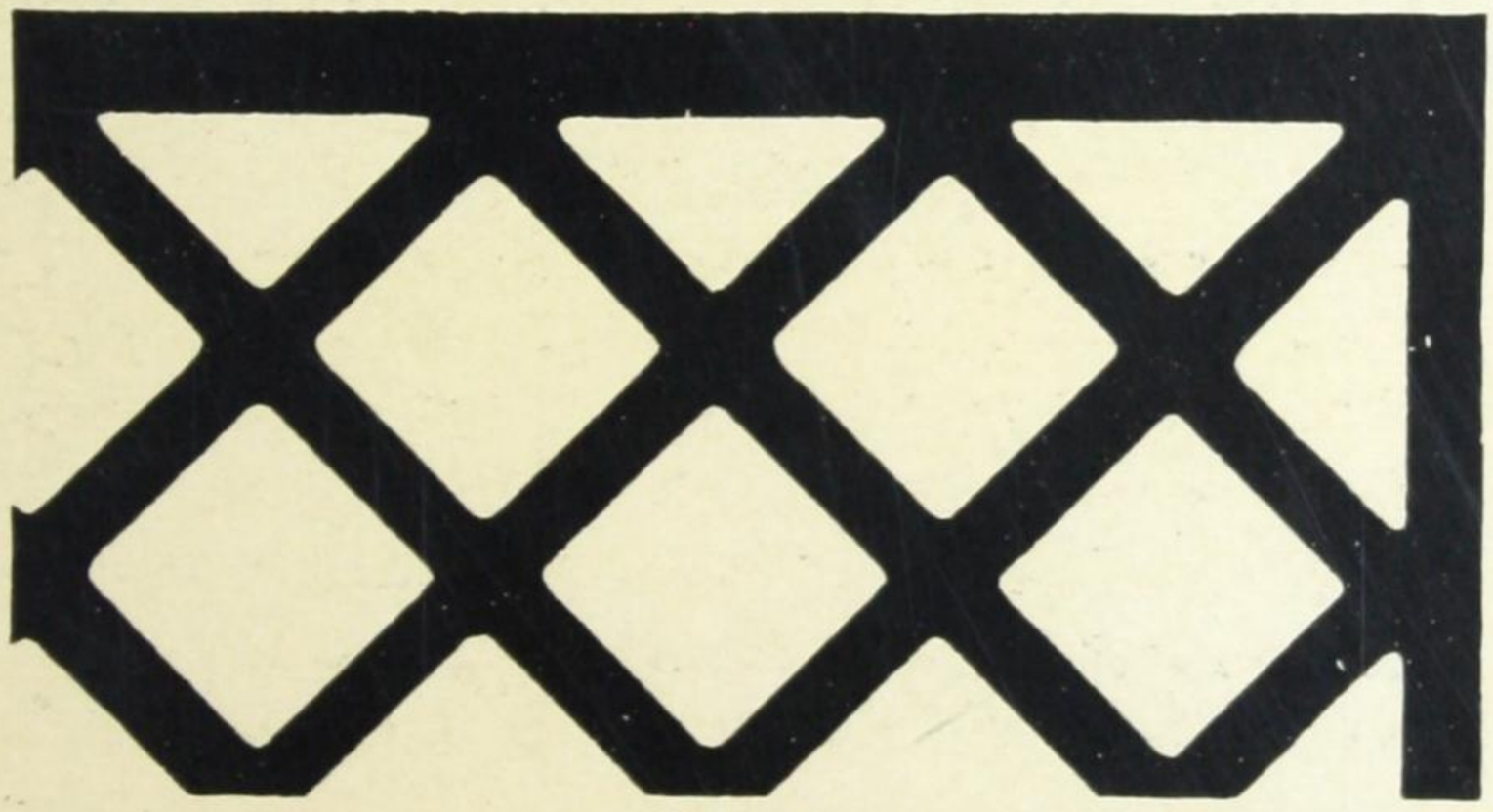


$\frac{7}{32}$ inch x $\frac{15}{32}$ inch, Straight

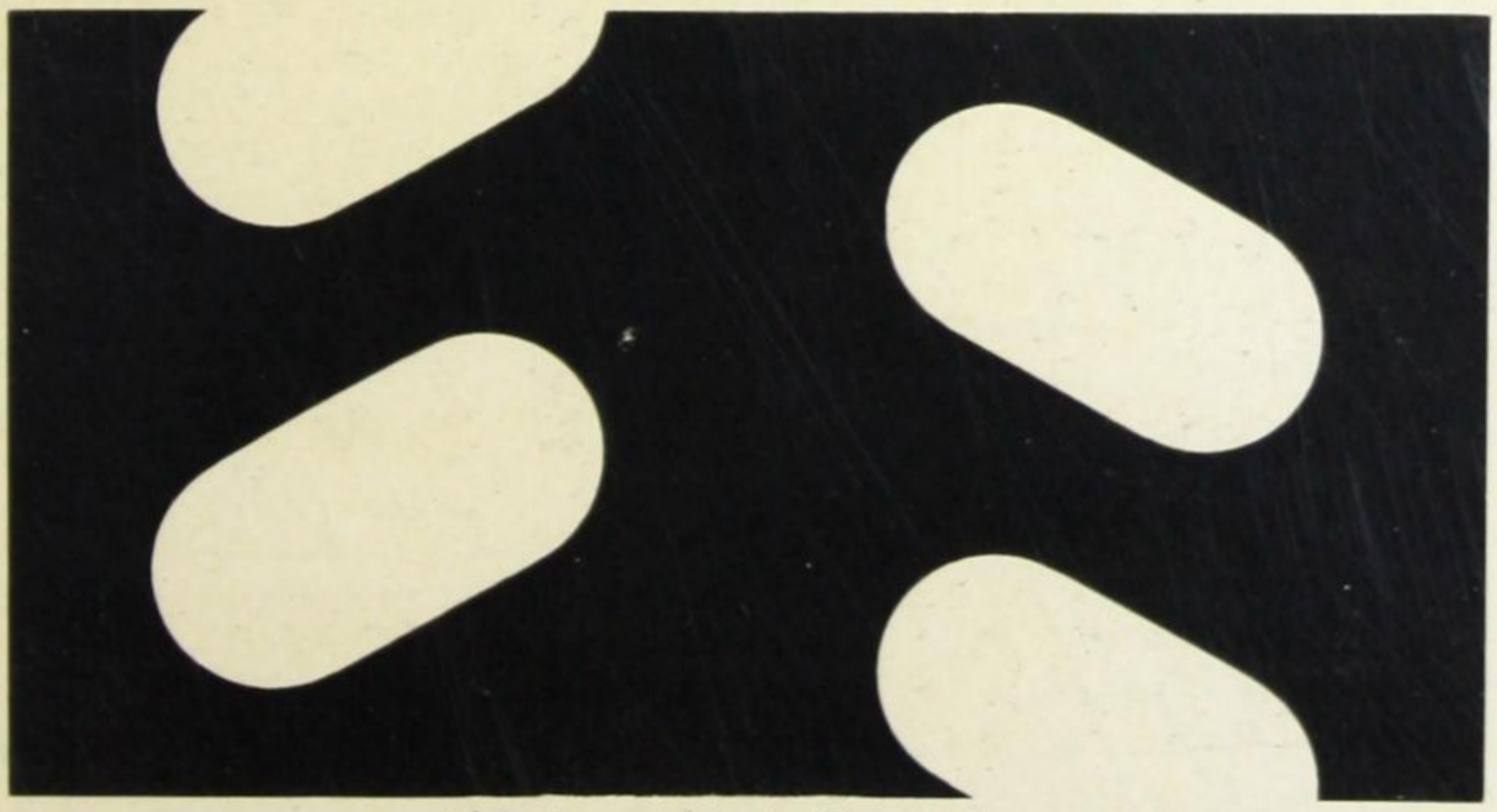
Reproduction of Perforations

For complete list of Perforations and Bars, see page 64

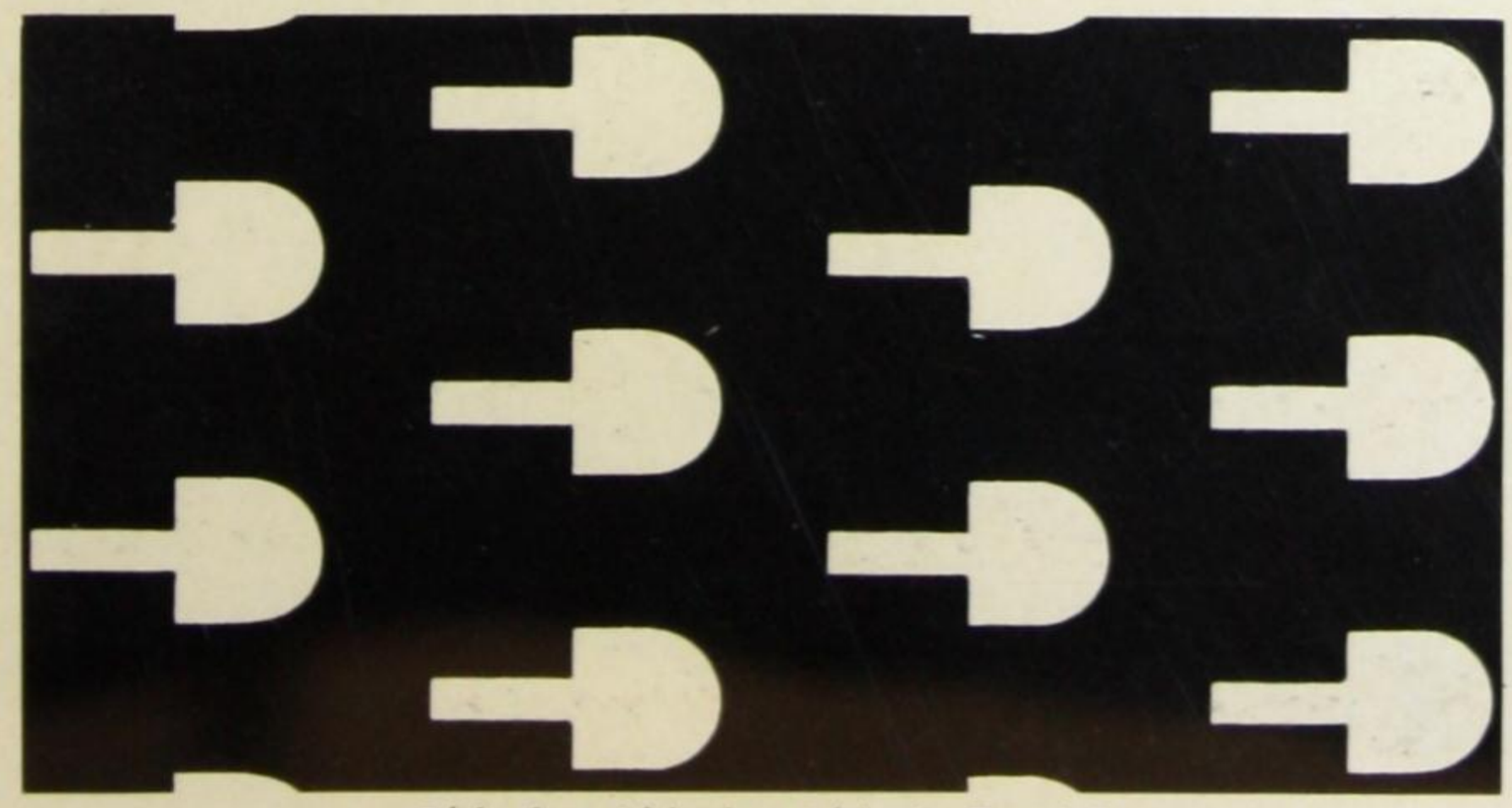
STANDARD PERFORATED SCREEN PLATES



Diamond



⅝ inch x 1¼ inch, Herringbone



⅛ inch x ⅜ inch x ¾ inch, Special

Reproduction of Perforations

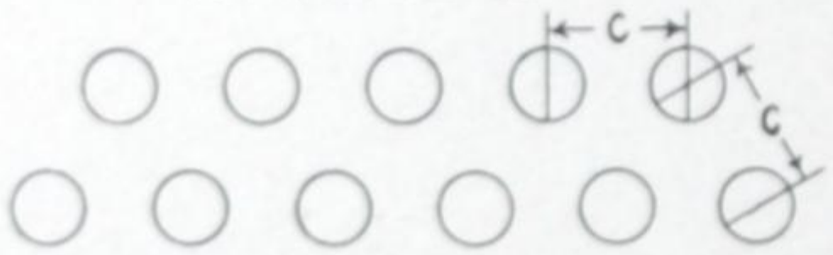
For complete list of Perforations and Bars, see page 65

DIAGRAMS SHOWING METHOD OF MEASURING SPACES BETWEEN PERFORATIONS

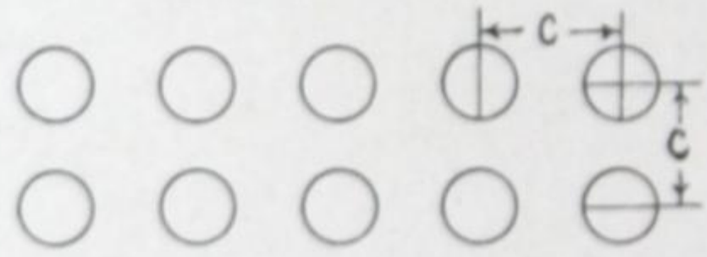
C = CENTERS B = BARS

ROUND

STAGGERED

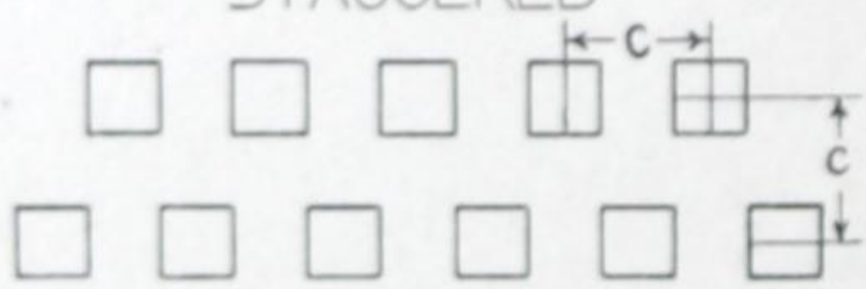


STRAIGHT

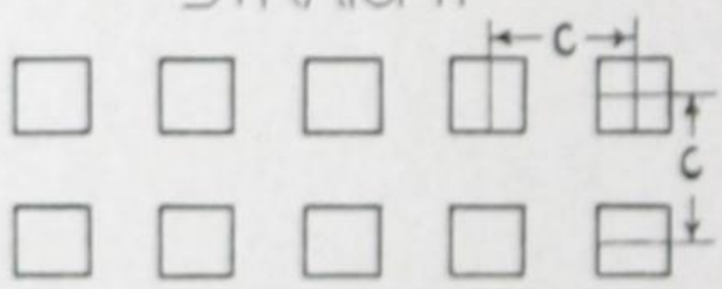


SQUARE

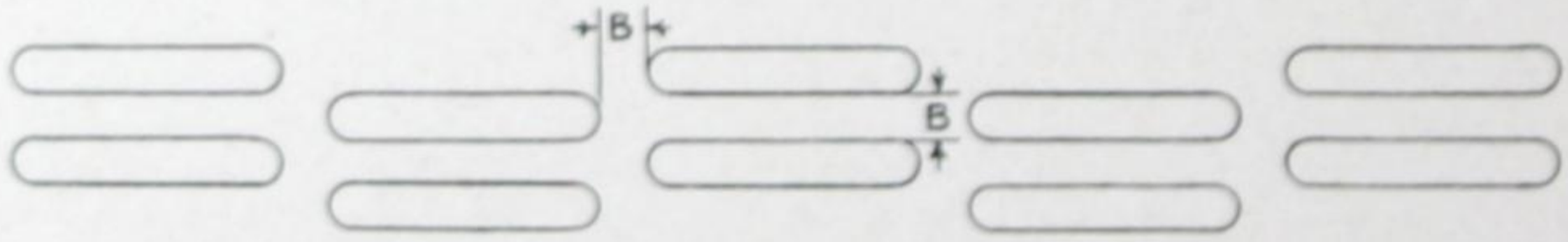
STAGGERED



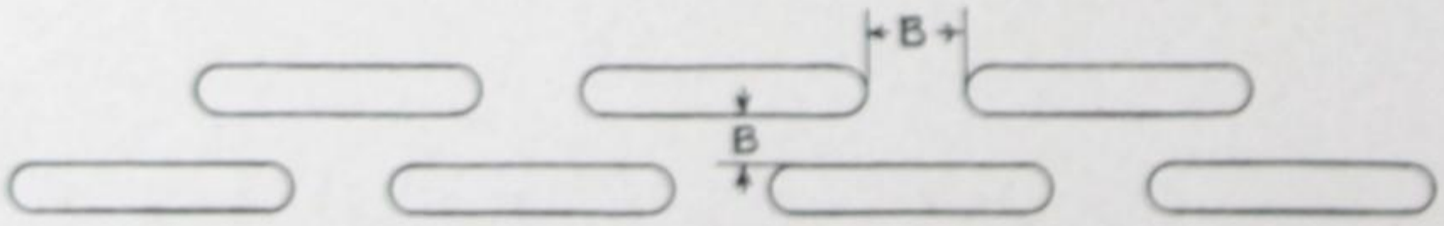
STRAIGHT



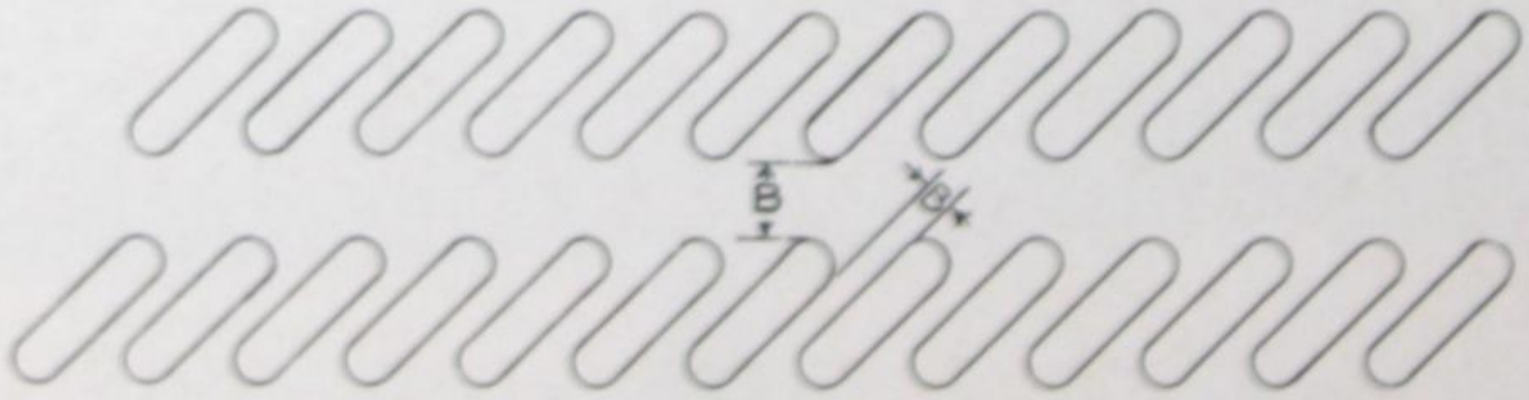
HIT & MISS ENDWAYS



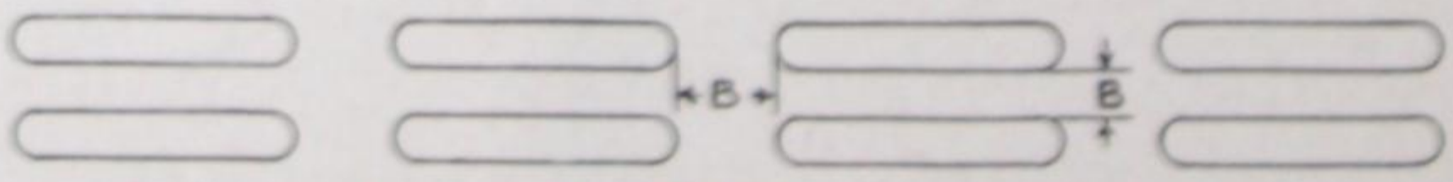
HIT & MISS SIDEWAYS



HIT & MISS DIAGONAL



STRAIGHT BOTH WAYS



TABLES OF PERFORATIONS

ON THE FOLLOWING PAGES we list the styles and sizes of perforations we can furnish, also the spaces between holes and maximum widths and gauges in steel according to the United States Standard Gauge.

We can punch one to two gauges heavier if the material ordered is brass, bronze or copper.

If the above standards do not conform to your specifications, send us same, as it is possible that by the special arrangement of our tools we can meet your requirements.

Page 54 shows the method of measuring the spaces between perforations.

If sizes in millimeters are desired, use the metric conversion table on page 123.

ROUND PERFORATIONS

Size	Centers	Maximum Gauge	† Maximum Width	Size	Centers	Maximum Gauge	† Maximum Width
1/32	2 mm.	22	48	5/32	5/16	18	60
"	9/64	22	48	"	7/16	10	60
1 mm.	2 mm.	22	48	11/64	3/8	12	any
"	9/64	22	48	3/16	9/32	16	58
3/64	1/10	20	48	"	19/64	8	60
"	11/64	20	48	"	3/8	7	any
.055	1/10	18	48	"	1/2	8	60
"	11/64	18	48	"	41/64	7	any
.058	1/10	18	48				
"	11/64	18	48	7/32	11/32	10	60
1/16	7/64	18	48	"	3/8	8	60
"	.149	16	48	"	35/64	12	any
"	5/32	18	36	"	19/32	10	60
"	3/16	18	48	"	21/32	8	60
"	17/64	16	48	15/64	3/8	6	60
.075	1/8	16	48	"	21/32	6	60
"	7/32	16	48	1/4	3/8	1/4	60
5/64	1/8	16	48	"	7/16	6	any
"	7/32	16	48	"	1/2	1/4	60
.085	9/64	14	48	"	21/32	1/4	60
"	1/4	14	48	"	3/4	6	any
1/12	9/64	14	48	"	7/8	1/4	60
"	1/4	14	48	"	1	1/4	any
.088	3/16	16	58	17/64	13/32	10	any
3/32	.117	16	58	"	11/16	10	any
"	5/32	14	60	9/32	13/32	1/4	60
"	3/16	14	48	"	11/16	10	any
"	13/64	16	58	"	23/32	1/4	60
"	7/32	14	60	19/64	7/16	10	any
"	9/32	14	60	"	25/32	10	any
"	21/64	14	48				
"	3/8	14	60	5/16	15/32	1/4	60
7/64	21/128	12	48	"	1/2	6	any
"	11/64	16	58	"	5/8	1/4	any
"	7/32	16	58	"	13/16	1/4	60
"	19/64	12	48	"	7/8	6	any
1/8	3/16	12	48	"	1 3/32	1/4	any
"	7/32	11	any	21/64	1/2	8	any
"	1/4	11	60	"	7/8	8	any
"	11/32	12	48	11/32	1/2	1/4	60
"	3/8	11	any	"	7/8	1/4	60
9/64	7/32	11	48	"	29/32	8	any
"	25/64	11	48	23/64	17/32	8	any
5/32	1/4	11	60	"	15/16	8	any

* We can furnish any center desired.

† This depends on rolling mill limits.

Reproductions of the above perforations on pages 17 to 27.

ROUND PERFORATIONS — Continued

Size	Centers	Maximum Gauge	† Maximum Width
3/8*	1/2	8	60
"	9/16	3/8	60
"	5/8	1/4	any
"	3/4	3/8	any
"	7/8	8	60
"	1 1/32	3/8	60
"	1 3/32	1/4	any
"	1 5/16	3/8	any
25/64	17/32	10	any
"	15/16	10	any
13/32	5/8	6	any
"	1 3/32	6	any
7/16	5/8	1/4	60
"	11/16	1/4	any
"	7/8	5/16	any
"	1 1/16	1/4	60
"	1 5/32	1/4	any
"	1 1/2	5/16	any
15/32	Special	10	any
1/2*	11/16	1/4	60
"	7/8	3/8	any
"	1 7/32	1/4	60
"	1 1/2	3/8	any
"	2	3/8	any
17/32	3/4	6	any
"	1 5/16	6	any
9/16	3/4	1/4	60
"	7/8	5/16	any
"	1 9/32	1/4	60
"	1 17/32	5/16	any
5/8*	13/16	1/4	60
"	7/8	1/4	60
"	1	3/8	any
"	1 1/8	3/8	any
"	1 7/16	1/4	60
"	1 5/8	1/4	60
"	1 23/32	3/8	any
"	1 15/16	3/8	any
11/16	7/8	3/16	60
"	15/16	1/4	68
"	1 1/16	3/8	any
"	1 5/8	1/4	60
"	1 15/16	3/8	any
3/4*	1	1/4	68
"	1 1/16	5/16	any

Size	Centers	Maximum Gauge	† Maximum Width
3/4*	1 1/8	3/8	any
"	1 1/2	5/8	any
"	1 23/32	1/4	68
"	1 3/4	6	60
"	1 7/8	5/16	any
"	1 15/16	3/8	any
13/16*	1 1/8	5/16	any
"	1 3/16	3/8	any
"	1 15/16	6	60
"	2	5/16	any
"	2 1/16	3/8	any
27/32	1 1/8	1/4	68
"	1 31/32	1/4	68
7/8*	1 1/8	1/4	68
"	1 1/4	3/8	any
"	1 31/32	1/4	68
"	2 3/16	3/8	any
15/16*	1 1/4	5/16	any
"	1 5/8	5/8	any
"	2 1/16	5/16	any
"	2 5/32	1/4	68
"	2 13/16	5/8	any
1*	1 3/8	3/8	any
"	1 1/2	1/2	any
"	1 5/8	5/8	any
"	2 3/8	3/8	any
"	2 5/8	1/2	any
"	2 7/8	3/8	any
"	2 15/16	5/8	any
1 1/16*	1 3/8	5/16	any
1 1/8*	1 1/2	5/16	68
"	1 5/8	1/2	any
"	1 11/16	1/2	any
"	2 13/16	1/2	any
"	2 15/16	1/2	any
1 3/16*	1 3/4	1/2	any
1 1/4*	1 11/16	3/8	any
"	1 3/4	1/2	any
"	1 7/8	5/8	any
"	2 1/4	5/8	any
"	2 15/16	3/8	any
"	3	5/16	68
"	3 1/4	5/8	any
"	4 5/16	5/16	68

* We can furnish any center desired.

† This depends on rolling mill limits.

Reproductions of the above perforations on pages 17 to 27.

ROUND PERFORATIONS — Continued

Size	Centers	Maximum Gauge	† Maximum Width	Size	Centers	Maximum Gauge	† Maximum Width
1 5/16 *	1 3/4	3/8	any	2 3/8 *	2 7/8	1/2	any
1 3/8 *	1 7/8	1/2	any	"	5	1/2	any
"	2	5/8	any	2 7/16	any	5/8	any
"	3 1/2	5/8	any	2 1/2 *	3 1/8	5/16	68
36 mm.	1 3/4	1/4	any	"	5 5/8	5/16	68
"	3	1/4	any	2 17/32	any	5/8	any
1 7/16 *	2	1/2	any	2 9/16	any	5/8	any
1 1/2 *	1 7/8	3/8	any	2 5/8	any	5/8	any
"	2	5/16	68	2 3/4	any	5/8	any
"	2 1/8	5/8	any	2 7/8	any	5/8	any
"	3 1/4	3/8	any	2 15/16	any	5/8	any
"	3 3/4	5/8	any	3	any	3/4	any
1 9/16 *	2	5/16	68	3 1/16	any	3/4	any
"	2 1/16	1/2	any	3 1/8	any	3/4	any
1 5/8 *	2	5/16	68	3 1/4	any	3/4	any
"	2 1/4	5/8	any	3 3/8	any	3/4	any
"	3 7/8	5/8	any	3 1/2	any	3/4	any
1 11/16 *	2 1/4	1/2	any	3 9/16	any	3/4	any
"	3 7/8	1/2	any	3 5/8	any	3/4	any
1 3/4 *	2	1/4	any	3 3/4	any	3/4	any
"	2 3/8	5/16	68	3 7/8	any	3/4	any
"	3 1/2	1/4	any	4	any	3/4	any
"	4 1/8	5/16	68	4 1/4	any	3/4	any
1 13/16 *	2 7/16	5/8	any	4 3/8	any	3/4	any
"	4 1/4	5/8	any	4 1/2	any	3/4	any
1 7/8	any	5/8	any	4 5/8	any	3/4	any
1 15/16	any	5/8	any	4 3/4	any	3/4	any
2 *	2 5/8	5/8	any	4 7/8	any	3/4	any
"	4 17/32	5/8	any	5	any	3/4	any
2 1/16	any	5/8	any	5 1/4	any	3/4	any
2 1/8	any	5/8	any	5 1/2	any	3/4	any
2 3/16	any	5/8	any	5 3/4	any	3/4	any
2 1/4 *	2 7/8	5/16	68	6	any	3/4	any
"	4 15/16	5/16	68	6 1/8	any	3/4	any
2 5/16 *	2 7/8	1/2	any	6 1/4	any	3/4	any
"	5	1/2	any	6 1/2	any	3/4	any
				6 3/4	any	3/4	any
				7	any	3/4	any
				7 1/4	any	3/4	any
				7 1/2	any	3/4	any
				7 3/4	any	3/4	any
				8	any	3/4	any

* We can furnish any center desired.

† This depends on rolling mill limits.

Reproductions of the above perforations on pages 17 to 27.

SQUARE PERFORATIONS

Size	Centers	Maximum Gauge	† Maximum Width	Size	Centers	Maximum Gauge	† Maximum Width
1/8	1/4	14	48	7/8*	1 1/8	1/4	any
3/16	5/16	12	48	"	1 1/4	3/8	any
"	3/8	12	48	"	2 1/4	1/4	any
1/4	3/8	10	60	"	2 1/2	3/8	any
"	7/16	7	any	15/16	1 3/16	1/4	any
"	3/4	10	60	"	2 3/16	1/4	any
5/16	15/32	8	60	1*	1 1/4	1/4	any
"	1/2	7	any	"	1 3/8	3/8	any
"	15/16	8	60	"	2 1/2	1/4	any
3/8	17/32	8	60	1 1/16	1 9/16	1/2	any
"	19/32	6	any	"	3 1/8	1/2	any
"	1 1/8	8	60	1 1/8	1 3/8	1/4	68
7/16	9/16	8	60	"	1 1/2	3/8	any
"	11/16	1/4	any	"	2 3/4	1/4	68
"	1 1/8	8	60	"	3	3/8	any
1/2	11/16	6	60	1 3/16	1 7/16	1/4	any
"	3/4	1/4	any	"	2 7/8	1/4	any
"	7/8	5/16	any	1 1/4*	1 1/2	1/4	any
"	1 1/4	5/16	any	"	1 5/8	3/8	any
"	1 3/8	6	60	"	3	1/4	any
"	1 1/2	1/4	any	"	3 1/4	3/8	any
9/16	3/4	6	60	1 5/16	1 9/16	1/4	68
"	13/16	1/4	any	"	1 11/16	3/8	any
"	1 1/2	6	60	"	3 1/4	1/4	68
5/8	13/16	6	60	1 3/8*	1 5/8	1/4	any
"	27/32	6	any	"	3 1/4	1/4	any
"	7/8	1/4	60				
"	1 3/8	1/4	60	1 7/16	1 3/4	5/16	68
"	1 5/8	6	60	"	1 13/16	3/8	any
21/32	31/32	1/4	any	"	3 1/2	5/16	68
11/16	7/8	8	60	1 1/2*	1 13/16	5/16	any
3/4*	15/16	6	60	"	2 1/16	14	any
"	1	1/4	any	"	3 5/8	5/16	any
"	1 1/8	3/8	any	1 9/16	any	5/8	any
"	1 7/8	6	60	1 5/8	2	3/8	any
"	2	1/4	any	"	2 1/8	1/2	any
"	2 1/4	3/8	any	"	4	3/8	any
13/16	1	6	60	1 3/4*	2 1/8	3/8	any
"	1 1/16	1/4	any	"	2 1/4	1/2	any
"	2	6	60	"	4 1/4	3/8	any
"	2 1/8	1/4	any	1 7/8*	2 1/4	3/8	any
7/8	1 1/16	16	60	"	4 1/2	3/8	any

* We can furnish any center desired.

† This depends on rolling mill limits.

Reproductions of the above perforations on pages 28 to 32.

SQUARE PERFORATIONS—Continued

Size	Centers	Maximum Gauge	† Maximum Width	Size	Centers	Maximum Gauge	† Maximum Width
2*	2 3/8	5/16	68	2 13/16	3 5/16	3/8	68
"	2 1/2	1/2	any	"	6 5/8	3/8	68
"	4 3/4	5/16	68	2 7/8*	3 3/8	5/16	68
2 1/16	2 7/16	5/16	68	"	6 3/4	5/16	68
"	2 11/16	1/2	any	2 15/16	any	5/8	any
"	4 7/8	5/16	68	3*	3 1/2	3/8	68
2 1/8*	2 1/2	5/16	68	"	7	3/8	68
"	5	5/16	68	3 1/8	any	3/4	any
2 5/32	any	5/8	any	3 1/4	any	3/4	any
2 3/16*	2 9/16	5/16	68	3 3/8	any	5/16	any
"	5 1/8	5/16	68	3 1/2	any	3/4	any
2 1/4*	2 5/8	3/8	68	3 3/4	any	3/4	any
"	5 1/4	3/8	68	3 7/8	any	3/4	any
2 5/16	2 11/16	3/8	any	4	any	3/4	any
"	5 3/8	3/8	any	4 1/4	any	3/4	any
2 3/8*	2 3/4	3/8	68	4 1/2	any	3/4	any
"	5 1/2	3/8	68	4 3/4	any	3/4	any
2 1/2*	3	5/16	68	5	any	3/4	any
"	6	5/16	68	6	any	3/4	any
2 5/8*	3 1/8	3/8	68				
"	6 1/4	3/8	68				
2 3/4*	3 1/4	1/2	any				
"	6 1/2	3/8	68				

* We can furnish any center desired.

† This depends on rolling mill limits.

Reproductions of the above perforations on pages 28 to 32.

SIDE STAGGER PERFORATIONS

HIT AND MISS, SIDEWAYS

Size	End Bar	Side Bar	Maximum Gauge	† Maximum Width	Size	End Bar	Side Bar	Maximum Gauge	† Maximum Width
.018 x ½	any	.107	25	48	½ x 2½	any	any	⅜	any
.020 x ½	any	.105	24	48	½ x 3¼	any	any	⅜	any
.022 x ½	any	.103	22	48	½ x 4¼	any	any	⅜	any
.024 x ½	any	.101	22	48	⅝ x 2¼	⅝	⅝	5/16	68
.027 x ½	any	.098	20	48	⅝ x 2¼	5/16	5/16	5/16	any
.029 x ½	any	.096	20	48	⅝ x 2¾	any	any	½	any
1/30 x ½	any	⅛	20	any	⅝ x 4	any	any	½	any
.035 x ½	any	⅛	20	48	⅝ x 6¼	any	any	½	any
1/25 x ½	any	15/128	20	any	¾ x 1¼	any	any	½	any
.042 x ½	any	.114	18	48	¾ x 2	any	½	½	any
3/64 x 1¼	any	11/64	18	any	¾ x 2⅛	any	any	½	any
.049 x ½	any	.107	16	48	¾ x 3	any	any	½	any
.058 x ½	any	⅛	16	48	¾ x 5	any	any	½	any
1/16 x ½	any	⅛	16	any	¾ x 6	any	any	½	any
1/16 x ¾	any	⅛	16	any	13/16 x 1 7/16	any	5/16	5/16	any
1/16 x 1	any	7/32	16	60	⅞ x 1¾	any	any	½	any
1/14 x 1⅜	any	.232	16	60	⅞ x 3	any	any	½	any
5/64 x ½	any	7/64	14	48	⅞ x 4	any	any	½	any
5/64 x ½	any	9/64	14	any	1 x 1½	any	any	⅝	any
3/32 x ½	any	3/32	14	48	1 x 2	any	any	⅝	any
3/32 x ½	any	⅛	14	any	1 x 3	any	any	⅝	any
7/64 x ½	any	⅛	12	48	1 x 4	any	any	⅝	any
⅛ x ½	any	⅛	12	48	1⅛ x 2¼	any	any	⅝	any
⅛ x 1	½	¼	11	any	1⅛ x 3⅛	any	any	⅝	any
⅛ x 2½	any	any	11	any	1⅛ x 5½	any	any	⅝	any
⅛ x 4	any	any	11	any	1¼ x 2	any	any	⅝	any
5/32 x ⅝	any	7/64	12	any	1¼ x 2¼	any	any	⅝	any
3/16 x ¾	any	⅛	11	any	1¼ x 2½	any	any	⅝	any
3/16 x 1	any	3/16	7	any	1¼ x 3	any	any	⅝	any
3/16 x 1¼	any	⅛	8	60	1¼ x 4	any	any	⅝	any
3/16 x 1½	any	⅛	8	any	1 5/16 x 2¾	any	any	⅝	any
3/16 x 2	any	3/16	7	any	1½ x 1¾	any	any	⅝	any
3/16 x 3¼	any	any	7	any	1½ x 2¼	any	any	⅝	any
3/16 x 4	any	any	7	any	1½ x 2½	any	any	⅝	any
7/32 x ⅝	any	⅛	12	any	1½ x 3	any	any	⅝	any
¼ x ¾	¼	¼	10	60	1⅝ x 3	any	any	⅝	any
¼ x 1*	any	5/16	¼	any	1¾ x 2½	any	any	⅝	any
¼ x 1¼*	any	⅛	8	60	1¾ x 3	any	any	⅝	any
¼ x 1½	any	¼	10	68	2 x 2⅜	any	any	⅝	any
¼ x 2*	any	3/16	7	any	2 x 2½	any	any	⅝	any
5/16 x 1	any	⅜	5/16	any	2 x 3	any	any	⅝	any
5/16 x 2	any	any	5/16	any	2 x 4	any	any	⅝	any
⅜ x 1¼	⅜	⅜	5/16	any	2¼ x 4	any	any	⅝	any
⅜ x 3¼	any	any	⅜	any	2 13/32 x 2 25/32	any	any	⅝	any
⅜ x 5½	any	any	⅜	any	2½ x 3	any	any	⅝	any
½ x ¾	any	any	½	any	2½ x 5	any	any	⅝	any
½ x 1	any	any	⅜	any	2¾ x 4¼	any	any	⅝	any
½ x 2	any	any	⅜	any	2¾ x 5½	any	any	⅝	any

* We can furnish any bar desired.

† This depends on rolling mill limits.

Reproductions of the above perforations on pages 47 to 51.

END STAGGER PERFORATIONS

HIT AND MISS, ENDWAYS

Size	End Bar	Side Bar	Maximum Gauge	† Maximum Width	Size	End Bar	Side Bar	Maximum Gauge	† Maximum Width
.012 x 469	3/16	any	31	48	3/8 x 1	1/4	3/16	7	any
.0135 x 1/2	5/32	any	30	24	3/8 x 1 1/8	9/32	3/8	1/4	any
.018 x 1/2	5/32	any	25	24	3/8 x 1 1/4	1/4	1/4	1/4	any
.027 x 1/2	.111	any	20	48	3/8 x 1 1/2	1/4	1/4	1/4	any
1/32 x 1/2	3/16	any	20	48	3/8 x 3 1/4	any	any	3/8	any
1/30 x 1/2	3/16	any	20	48	3/8 x 5 1/2	any	any	3/8	any
.035 x 1/2	5/16	any	20	48	7/16 x 15/16	1/4	1/4	1/4	any
1/25 x 1/2	3/16	any	20	48	7/16 x 1 3/8	1/4	3/16	7	any
1/16 x 1 1/2	1/8	1/16	16	any	7/16 x 1 1/2	3/8	7/16	3/8	any
5/64 x 1/2	3/16	any	16	48	1/2 x 5/8	1/4	1/4	1/4	any
3/32 x 3/4	3/32	3/32	14	60	1/2 x 3/4 *	1/4	1/4	1/4	any
3/32 x 1 1/4	3/16	3/32	14	60	1/2 x 1 *	1/4	1/4	1/4	any
7/64 x 3/4	3/32	any	12	60	1/2 x 1 1/4	1/4	1/4	1/4	any
1/8 x 1/4	1/8	1/8	12	any	1/2 x 1 1/2	1/4	1/4	1/4	any
1/8 x 1/2	3/16	1/8	8	any	1/2 x 2 *	5/16	5/16	5/16	any
1/8 x 3/4	1/8	1/8	11	any	1/2 x 2 1/2	any	any	1/2	any
1/8 x 1	3/16	1/8	11	any	1/2 x 3 1/4	any	any	3/8	any
1/8 x 1 1/2	1/4	1/8	11	any	1/2 x 4 1/4	any	any	1/2	any
1/8 x 2 1/2	any	any	11	any	9/16 x 1	1/4	3/16	7	any
1/8 x 4	any	any	11	any	5/8 x 1 1/4	7/16	5/16	1/4	any
5/32 x 3/4	5/32	5/32	10	any	5/8 x 1 1/2	3/8	3/8	3/8	any
5/32 x 1 1/2	3/16	5/32	10	any	5/8 x 1 3/4	3/8	5/16	1/4	any
11/64 x 3/4	5/32	11/64	10	any	5/8 x 2 1/4	7/16	3/8	3/8	any
11/64 x 3/4	5/32	any	12	48	5/8 x 4	any	any	5/8	any
11/64 x 1	5/16	any	12	48	5/8 x 6 1/4	any	any	5/8	any
3/16 x 5/16	5/32	3/16	8	any	3/4 x 1	1/4	1/4	1/4	any
3/16 x 3/16	5/32	3/16	8	any	3/4 x 1 1/4 *	3/8	3/8	3/8	any
3/16 x 3/4	5/32	3/16	8	any	3/4 x 1 1/2	1/2	3/8	3/8	any
3/16 x 1 1/4	3/16	3/16	8	any	3/4 x 2	5/16	3/8	1/4	any
3/16 x 1 1/2	3/16	3/16	10	any	3/4 x 2 1/8	any	any	5/8	any
3/16 x 3 1/4	any	any	7	any	3/4 x 2 1/4	5/8	1/2	1/2	any
3/16 x 4	any	any	7	any	3/4 x 3	any	any	5/8	any
7/32 x 3/4	7/32	7/32	6	any	3/4 x 5	any	any	5/8	any
7/32 x 1 1/2	7/32	7/32	6	any	3/4 x 6	any	any	5/8	any
1/4 x 1/2	1/4	1/4	1/4	any	7/8 x 1 1/4	7/16	3/8	3/8	any
1/4 x 3/4	1/8	1/8	6	any	7/8 x 1 1/2	7/16	1/2	3/8	any
1/4 x 1	any	any	1/4	any	7/8 x 1 3/4 *	7/16	1/2	3/8	any
1/4 x 1 1/4 *	1/4	1/8	11	any	7/8 x 3	any	any	5/8	any
1/4 x 1 1/2	1/4	1/4	1/4	any	7/8 x 4	any	any	5/8	any
1/4 x 2	any	any	1/4	any	1 x 1 1/2 *	1/2	1/2	1/2	any
1/4 x 4	1/4	1/4	1/4	any	1 x 2 *	7/16	3/8	3/8	any
5/16 x 1/2	1/4	5/16	1/4	any	1 x 3	any	any	5/8	any
5/16 x 1	5/16	5/16	5/16	any	1 x 4	any	any	5/8	any
5/16 x 1 1/2	5/16	5/16	5/16	any	1 1/8 x 2 1/4 *	1/2	1/2	1/2	any
5/16 x 2	any	any	5/16	any	1 1/8 x 3	5/8	1/2	1/2	any
5/16 x 2 1/2	7/16	7/16	5/16	any	1 1/8 x 3 1/8	any	any	5/8	any
11/32 x 1 1/2	3/4	7/32	10	any	1 1/8 x 5 1/2	any	any	5/8	any
3/8 x 1/2	3/16	3/16	7	any	1 1/4 x 2 *	1/2	1/2	1/2	any
3/8 x 3/4	1/4	1/4	1/4	any	1 1/4 x 2 1/4	any	any	5/8	any

* We can furnish any bar desired.

† This depends on rolling mill limits.

Reproductions of the above perforations on pages 40 to 46.

END STAGGER PERFORATIONS—Continued

HIT AND MISS, ENDWAYS

Size	End Bar	Side Bar	Maximum Gauge	† Maximum Width	Size	End Bar	Side Bar	Maximum Gauge	† Maximum Width
1 ¼ x 2 ½*	½	½	½	any	1 ¾ x 3	any	any	⅝	any
1 ¼ x 3*	⅝	½	½	any	2 x 2 ⅜	any	any	⅝	any
1 ¼ x 4	any	any	⅝	any	2 x 2 ½	any	any	⅝	any
1 $\frac{5}{16}$ x 2 ¾	any	any	⅝	any	2 x 3	any	any	⅝	any
1 ⅜ x 2 ¾	⅝	⅝	⅝	any	2 x 4	any	any	⅝	any
1 ½ x 1 ¾	any	any	⅝	any	2 ¼ x 4	any	any	⅝	any
1 ½ x 2 ¼	any	any	⅝	any	2 $\frac{13}{32}$ x 2 $\frac{25}{32}$	any	any	⅝	any
1 ½ x 2 ½	any	any	⅝	any	2 ½ x 3	any	any	⅝	any
1 ½ x 3*	¾	⅝	⅝	any	2 ½ x 5	any	any	⅝	any
1 ⅝ x 3*	¾	½	½	any	2 ¾ x 4 ¼	any	any	⅝	any
1 ¾ x 2 ½	any	any	⅝	any	2 ¾ x 5 ½	any	any	⅝	any

* We can furnish any bar desired.

† This depends on rolling mill limits.

Reproductions of the above perforations on pages 40 to 46.

STRAIGHT BOTH WAYS

Size	End Bar	Side Bar	Maximum Gauge	† Maximum Width	Size	End Bar	Side Bar	Maximum Gauge	† Maximum Width
.018 x ½	any	.107	25	48	½ x 3¼	any	any	⅜	any
.020 x ½	any	.105	24	48	½ x 4¼	any	any	½	any
.022 x ½	any	.103	22	48	⅝ x 2¼	⅝	⅝	5/16	68
.024 x ½	any	.101	22	48	⅝ x 4	any	any	½	any
.027 x ½	any	.098	20	48	⅝ x 6¼	any	any	½	any
.029 x ½	any	.096	20	48	¾ x 1¼	any	any	½	any
1/32 x ½	⅛	any	20	any	¾ x 2⅛	any	any	½	any
.035 x ½	any	⅛	20	48	¾ x 3	any	any	½	any
.042 x ½	any	.114	18	48	¾ x 5	any	any	½	any
3/64 x ½	⅛	any	20	any	¾ x 6	any	any	½	any
.049 x ½	any	.107	16	48	⅞ x 1¾	any	any	½	any
.058 x ½	any	⅛	16	48	⅞ x 3	any	any	½	any
1/16 x ½	5/32	any	16	any	⅞ x 4	any	any	½	any
"	any	⅛	16	48	1 x 1½	any	any	½	any
1/16 x 1	3/16	any	16	any	1 x 2	any	any	½	any
"	any	7/32	16	60	1 x 3	any	any	½	any
1/14 x 1⅜	any	.232	16	60	1 x 4	any	any	½	any
5/64 x ½	any	7/64	14	48	1⅛ x 2¼	any	any	½	any
3/32 x ½	any	8/32	14	48	1⅛ x 3⅛	any	any	½	any
3/32 x 1¼	3/16	any	14	48	1⅛ x 5½	any	any	½	any
7/64 x ½	any	⅛	12	48	1 3/16 x 3	any	any	½	any
⅛ x ½	any	⅛	12	48	1¼ x 2	any	any	½	any
⅛ x 2½	any	any	12	any	1¼ x 2¼	any	any	½	any
⅛ x 4	any	any	12	any	1¼ x 2½	any	any	½	any
3/16 x ½	3/16	any	16	58	1¼ x 3	any	any	½	any
3/16 x 1¼	any	⅛	8	60	1¼ x 4	any	any	½	any
3/16 x 1½	any	⅛	10	68	1 5/16 x 2¾	any	any	½	any
3/16 x 3¼	any	any	8	any	1½ x 1¾	any	any	½	any
3/16 x 4	any	any	8	any	1½ x 2¼	any	any	½	any
7/32 x 1 5/32	any	25/64	16	48	1½ x 2½	any	any	½	any
¼ x ¾	¼	¼	10	60	1½ x 3	any	any	½	any
¼ x 1	any	any	¼	any	1⅝ x 3	any	any	½	any
¼ x 1¼	any	⅛	8	60	1¾ x 2½	any	any	½	any
¼ x 1¼	any	any	¼	any	1¾ x 3	any	any	½	any
¼ x 1½	any	¼	10	68	2 x 2⅜	any	any	½	any
¼ x 2	any	any	¼	any	2 x 2½	any	any	½	any
¼ x 2½	½	any	¼	any	2 x 3	any	any	½	any
5/16 x 2	any	any	5/16	any	2 x 4	any	any	½	any
⅜ x 2¼	⅜	any	⅜	any	2¼ x 4	any	any	½	any
⅜ x 3¼	any	any	⅜	any	2 13/32 x 2 25/32	any	any	½	any
⅜ x 5½	any	any	⅜	any	2½ x 3	any	any	½	any
½ x ¾	any	any	½	any	2½ x 5	any	any	½	any
½ x 1	any	any	⅜	any	2¾ x 4¼	any	any	½	any
½ x 2	any	any	½	any	2¾ x 5½	any	any	½	any
½ x 2½	any	any	½	any					

* We can furnish any bar desired.

† This depends on rolling mill limits.

Reproductions of the above perforations on page 52.

DIAGONAL PERFORATIONS

NEEDLE SLOT

Size	End Bar	Side Bar	Maximum Gauge	† Maximum Width	Size	End Bar	Side Bar	Maximum Gauge	† Maximum Width
.0135 x ½	1/64	any	30	48	1/16 x ½	5/32	any	16	60
.015 x ½	1/64	any	28	48	3/32 x ½	9/64	any	14	48
.0165 x ½	1/64	any	25	48	2½ mm. x ½	9/64	any	14	48
.018 x ½	1/64	any	25	48	1/10 x 3/8	1/8	any	16	any
.020 x ½	1/64	any	24	48	1/8 x ½	1/8	any	11	60
.022 x ½	1/64	any	22	48	5/32 x 3/8	1/8	any	10	any
.024 x ½	1/64	any	22	48	5/32 x 7/16	1/16	any	16	any
.027 x ½	1/64	any	20	48	5/32 x ½	5/32	any	8	any
.029 x ½	1/64	any	20	48	3/16 x ½	1/8	any	11	any
.035 x ½	1/64	any	20	48	3/16 x 3/4	1/8	any	11	any
.042 x ½	1/64	any	14	48	1/4 x 7/16	3/16	any	7	any
.049 x ½	5/32	any	16	48	1/4 x ½	1/8	any	11	any
.058 x ½	5/32	any	16	48	½ x 2	7/16	any	5/16	any

DIAMOND SHAPE PERFORATIONS

Size	Maximum Gauge	† Maximum Width	Size	Maximum Gauge	† Maximum Width
½	½	any	1½	¾	any
5/8	9/16	any	1¾	¾	any
¾	5/8	any	2	¾	any
7/8	5/8	any	2¼	¾	any
1	5/8	any	2⅜	¾	any
1⅛	5/8	any	2½	¾	any
1¼	5/8	any			

HERRINGBONE PERFORATIONS

Size	Maximum Gauge	† Maximum Width	Size	Maximum Gauge	† Maximum Width
3/32 x ¾	14	48	¾ x 2¼	¼	any
5/8 x 1¼	¼	any	7/8 x 2¼	¼	any
5/8 x 2⅛	¼	any			

* We can furnish any bar desired.

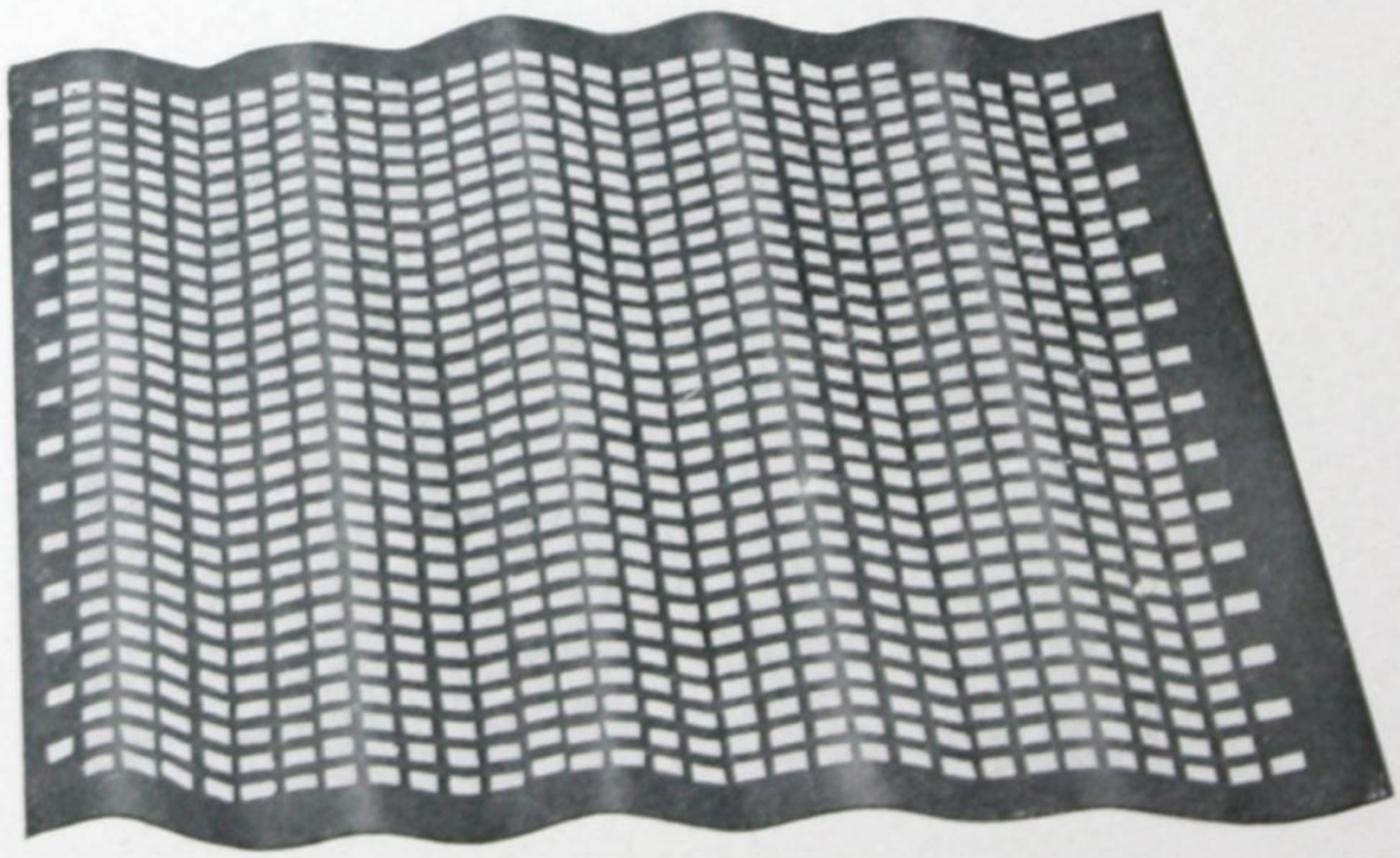
† This depends on rolling mill limits.

Reproductions of the above perforations on page 53.

MANUFACTURED SCREENS

CORRUGATED PLATE SCREEN

FOR COAL AND COKE



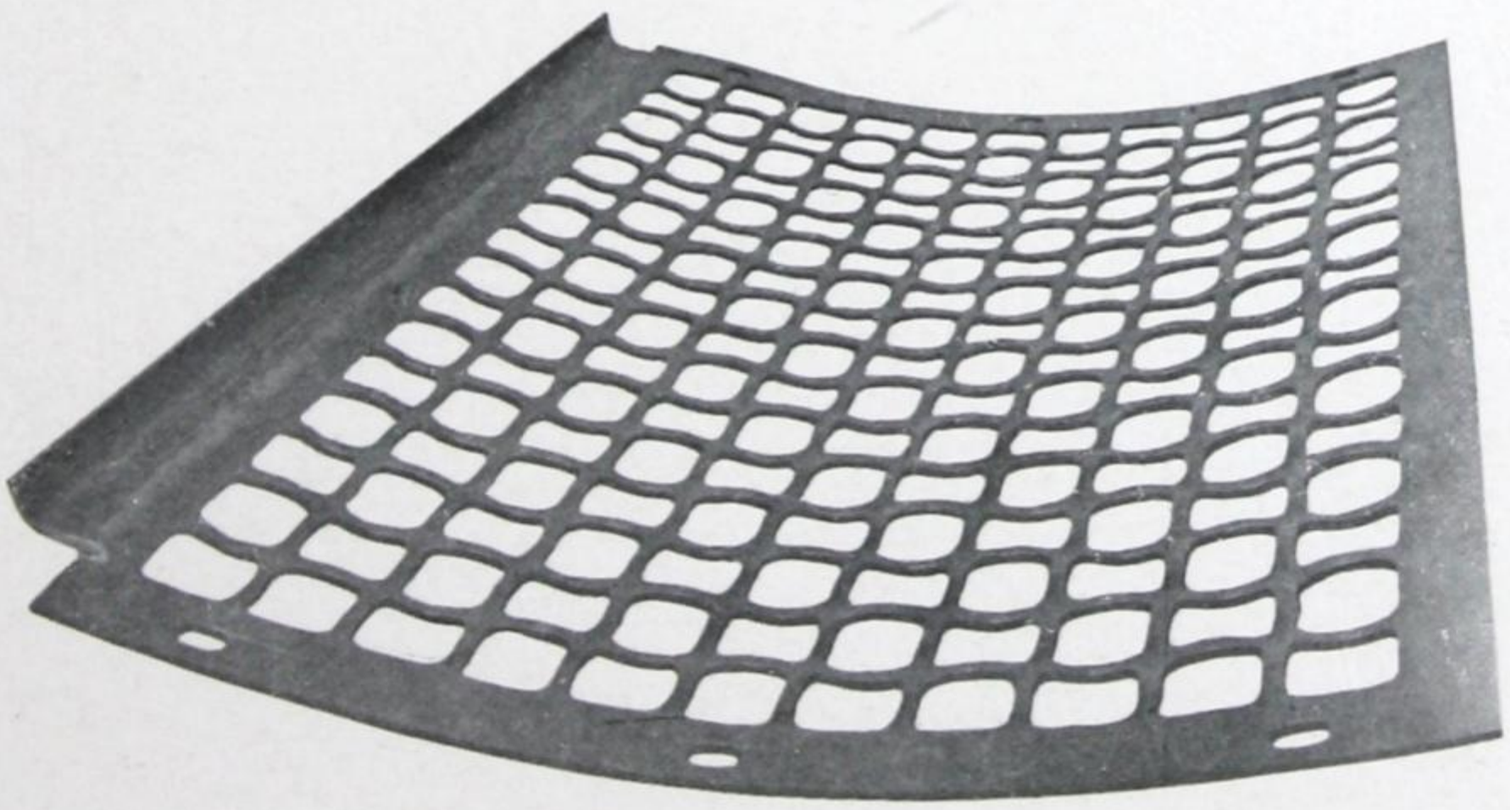
IN THE ABOVE ILLUSTRATION is shown a perforated steel plate corrugated, which causes an obstruction to the material passing over its surface, instead of passing in a rapid straight line over the screening surface as is common in the old and smooth type of this class of screen. This screen insures cleaning and fine separation.

When ordering this type of corrugated surface, state the exact dimensions of sheets in inches, size of perforation and thickness of metal by United States Standard Gauge.

Page 112 gives meshes and gauges for shaking and revolving screens
See page 126 for diameter table

PATENT CRIMPED AND FLANGED TUMBLER SEGMENT

FOR CLEANING AND SIZING COAL AND COKE

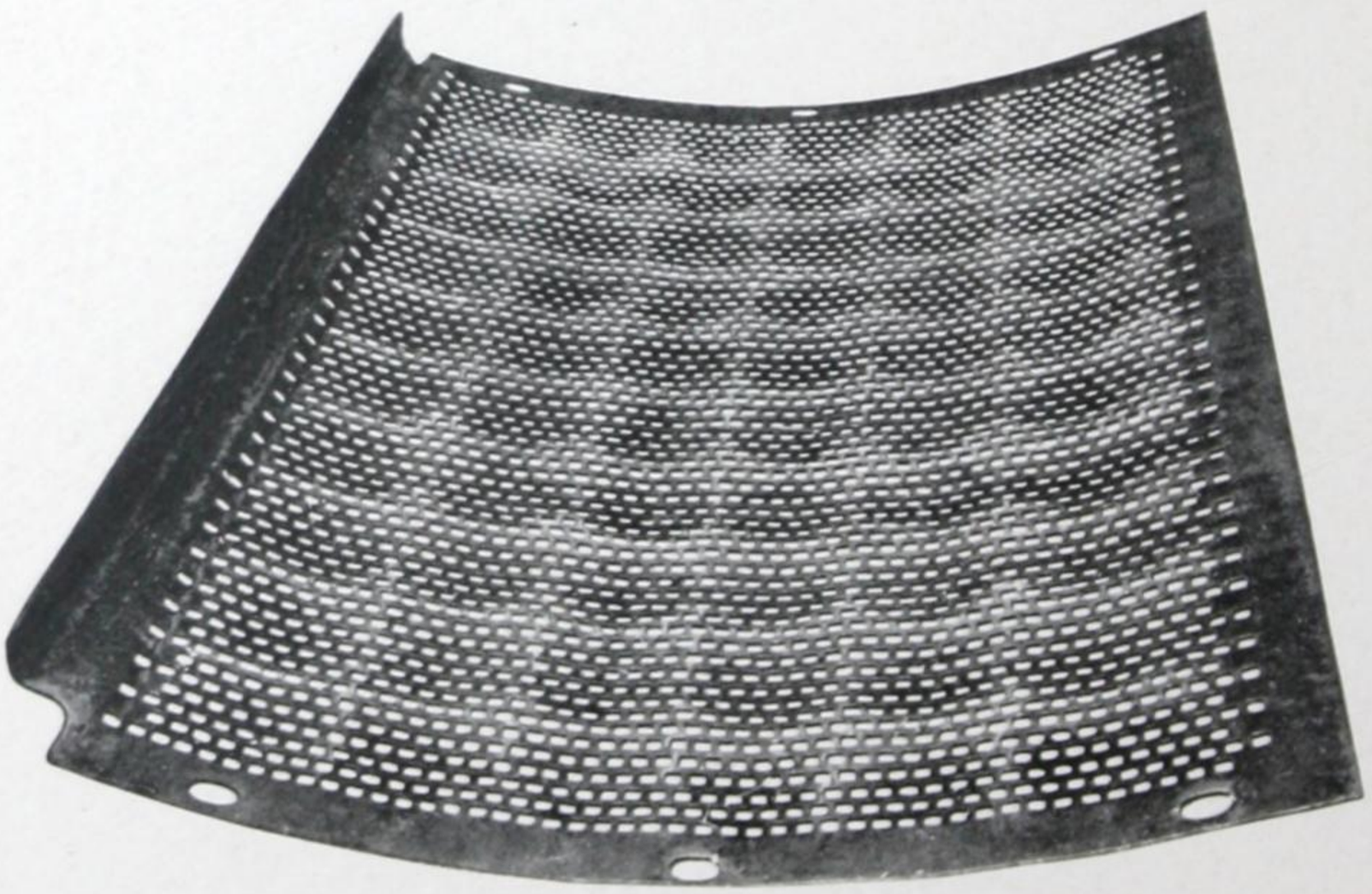


WHEN ORDERING this style of plate, state to what diameter segments are to be curved and in what direction; the exact dimensions of segments in inches; number of segments to the circle and location of bolt holes with size of perforations; thickness of metal by United States Standard Gauge.

Page 112 gives meshes and gauges for shaking and revolving screens
See page 126 for diameter table

DOUBLE CORRUGATED AND FLANGED TUMBLER SEGMENT

FOR CLEANING AND FINE SEPARATION OF COAL

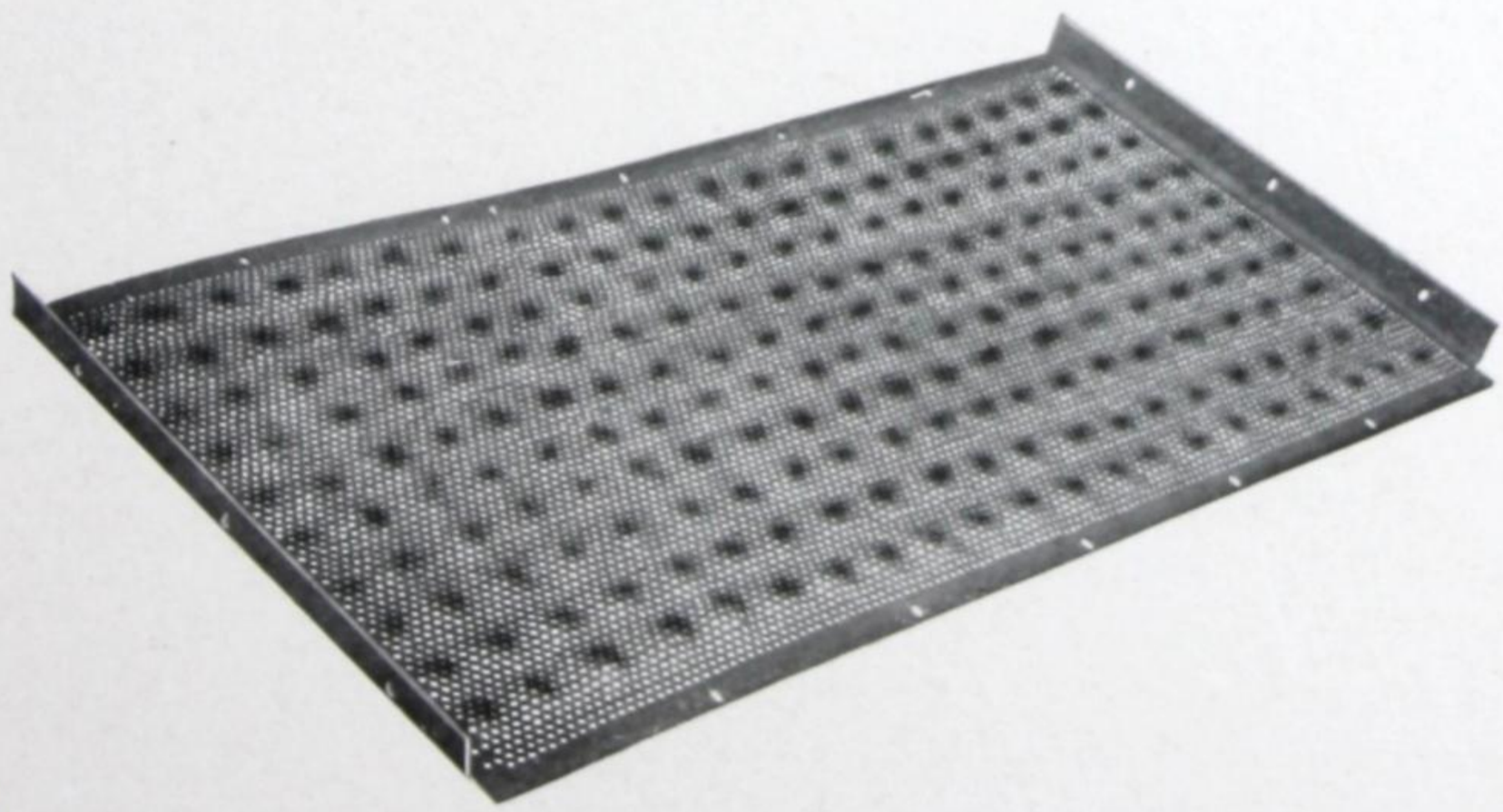


WHEN ORDERING, state diameter and direction to which segments are to be curved and exact dimensions of segments in inches; number of segments to the circle and location of bolt holes with size of perforations; thickness of metal according to United States Standard Gauge.

Page 112 gives meshes and gauges for shaking and revolving screens
See page 126 for diameter table

DOUBLE CORRUGATED FLANGED SHAKER JACKET

FOR RETARDING THE FLOW OF COAL



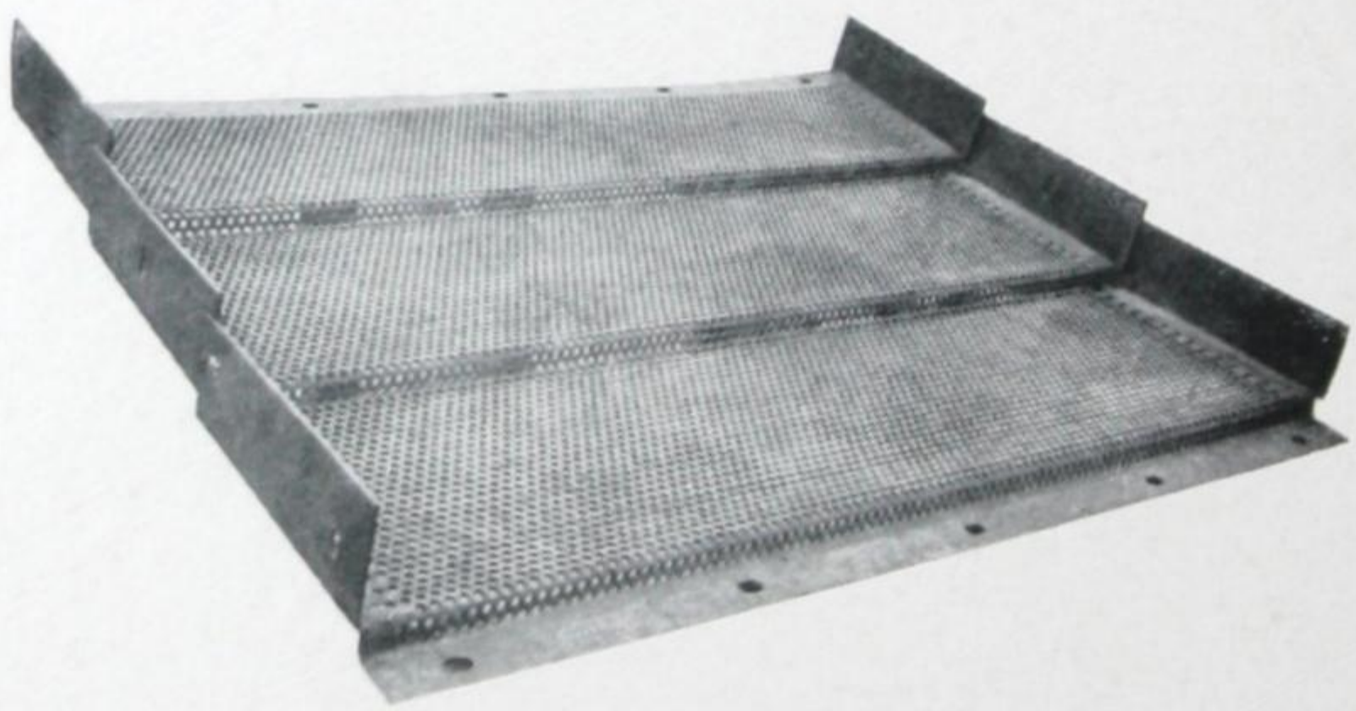
THIS CUT SHOWS a flanged shaker jacket which is double corrugated to retard the flow of coal and so give a more thorough screening than is possible with the old type of smooth surface screen.

Page 112 gives meshes and gauges for shaking and revolving screens

PERISERTREAD SHAKING SCREENS

(PATENT APPLIED FOR)

THE SCREEN WITH THE PERFORATED RISER

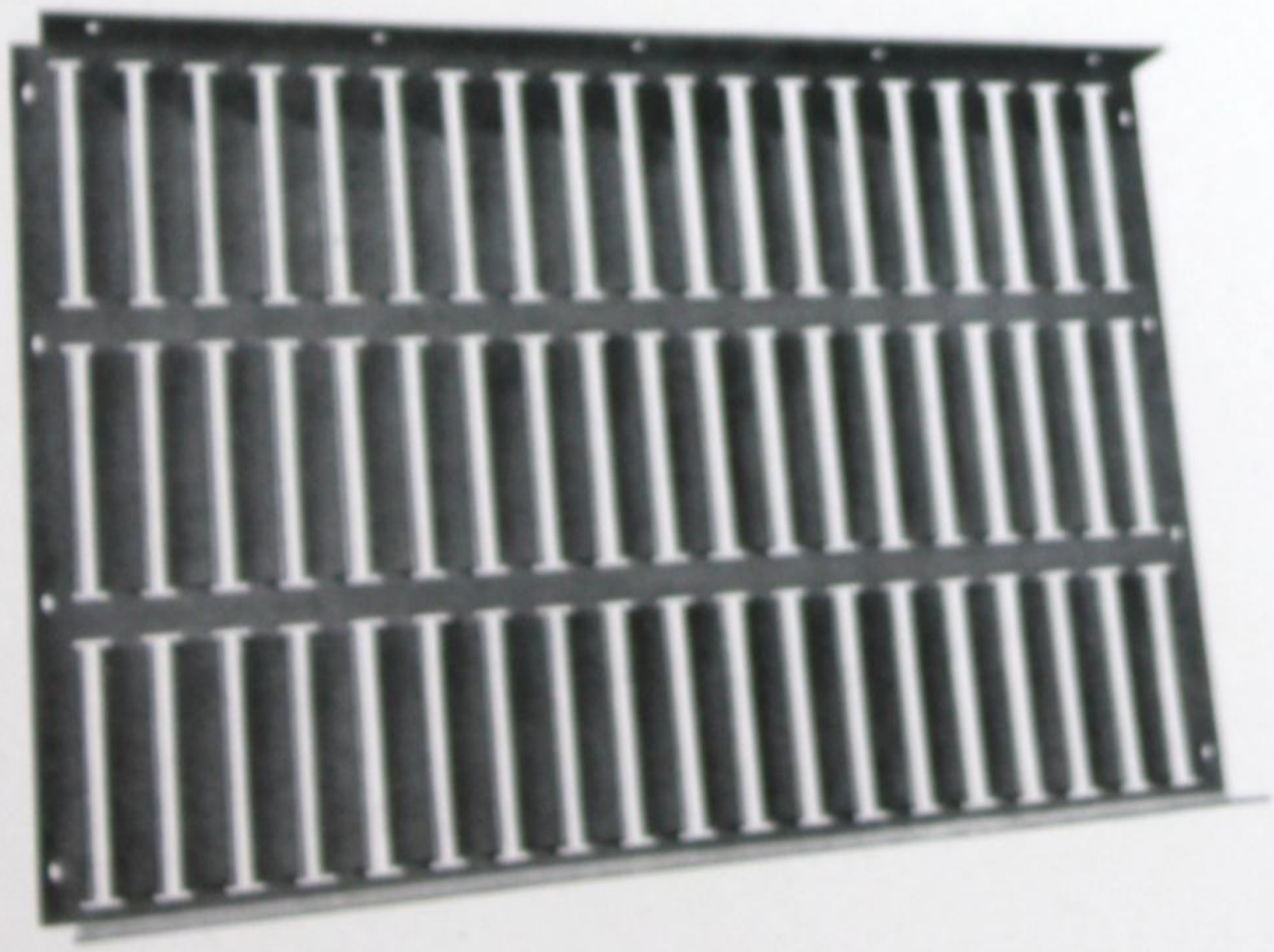


THE PERFORATED RISER forms a backing for the material passing over the screen and loosens it up, thus allowing the smaller material to pass through the meshes more freely. The motion is always forward avoiding wear on material being sized or cleaned. Thus greater efficiency is secured with at least 30 to 50 per cent increased capacity in chestnut and smaller sizes. In places where greater rigidity is required the perforated riser has all the advantages of a stiffening bar without loss of efficiency. Furnished in steel or bronze.

Page 112 gives meshes and gauges for shaking and revolving screens
Bronze screens, see page 126

SPECIAL SCREENS

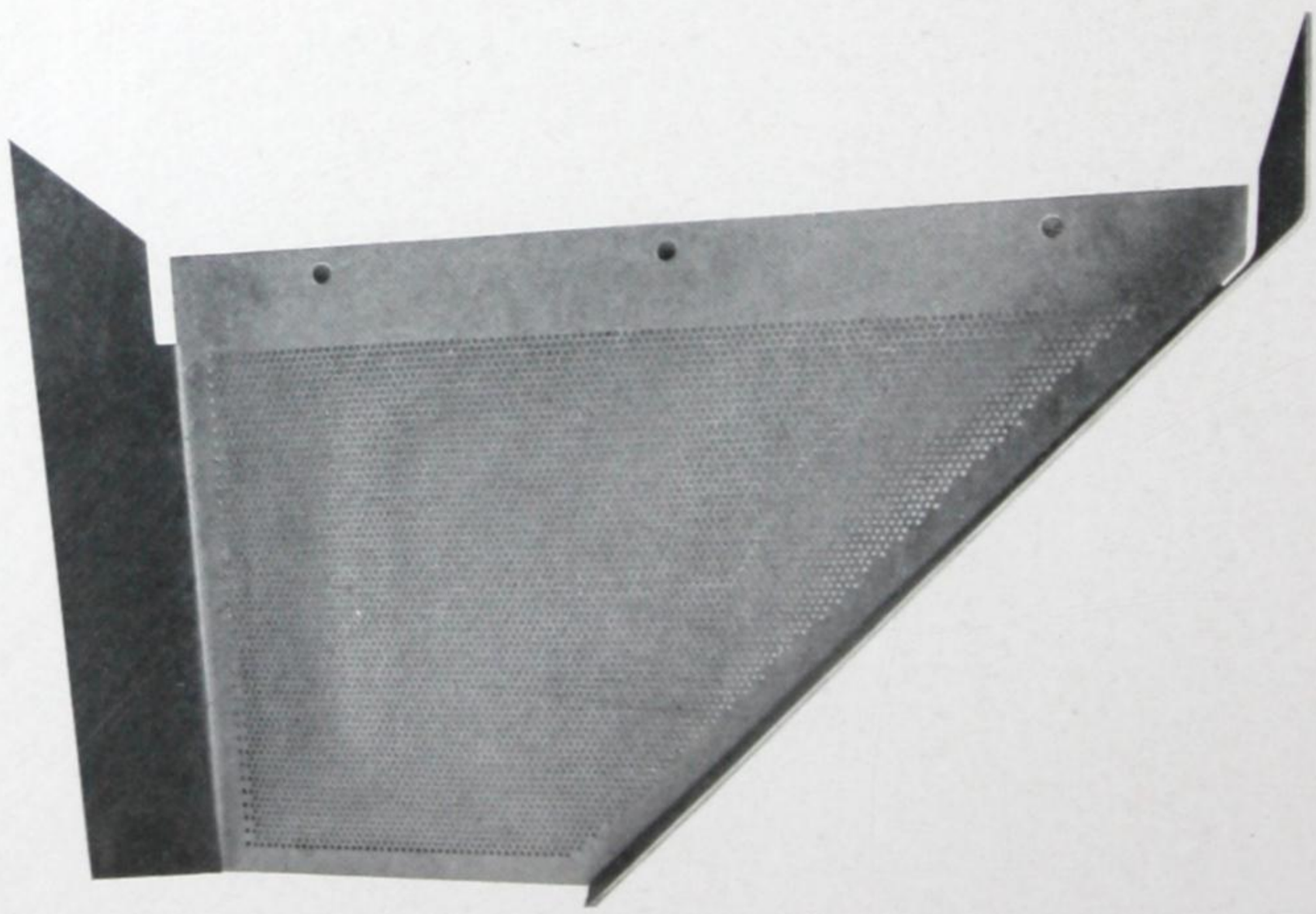
FOR THE PREPARATION OF COAL



A SPECIAL TYPE of slate picker used extensively where the slate is in flat and very large pieces. Made to suit requirements.

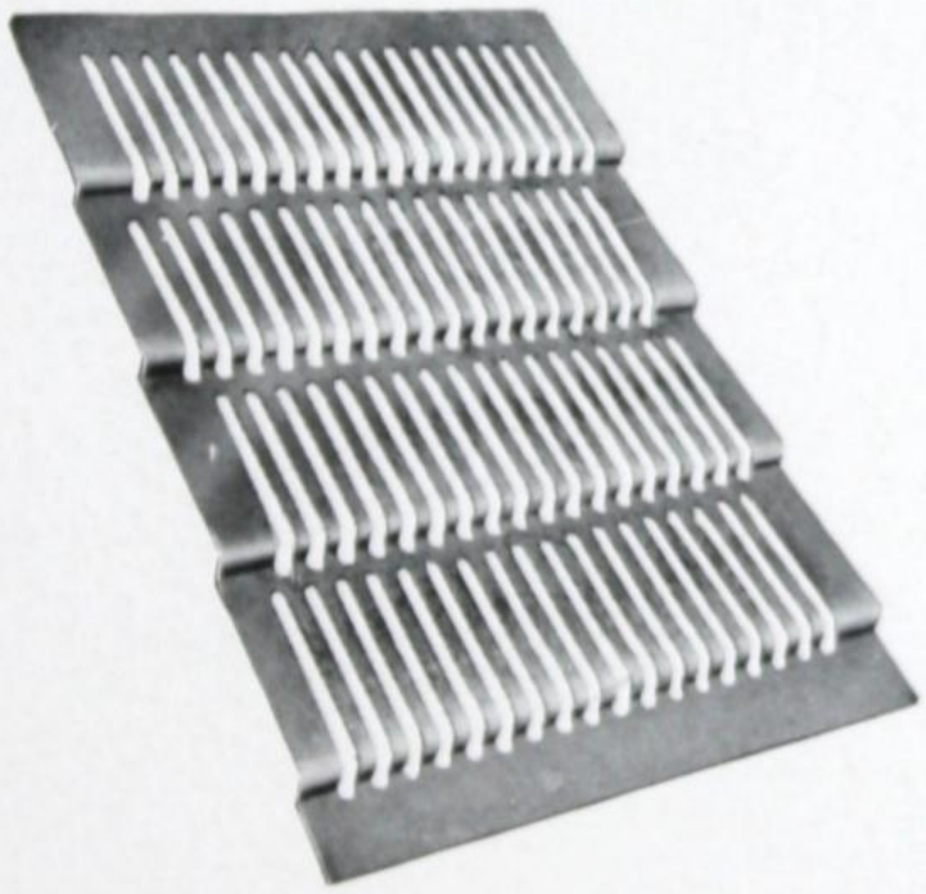
SPECIAL SCREENS

FOR THE PREPARATION OF COAL



DISCHARGE CHUTE for anthracite coal jig. Made left or right hand, in bronze for sulphurous water, or steel for ordinary requirements. Furnished with or without sides.

FLANGED LIP SCREEN
FOR COAL AND COKE



We are the Sole Manufacturers of this Screen

THIS TYPE OF SCREEN is being used most successfully in the screening of coal and coke. The growing number of users may be taken as an evidence of its efficiency.

Go to a tipple that is well equipped and you will probably find several of these screens playing a prominent part in the preparation of the coal. They may be on the shaking screen, at the loading chutes, or used as discharge screens.

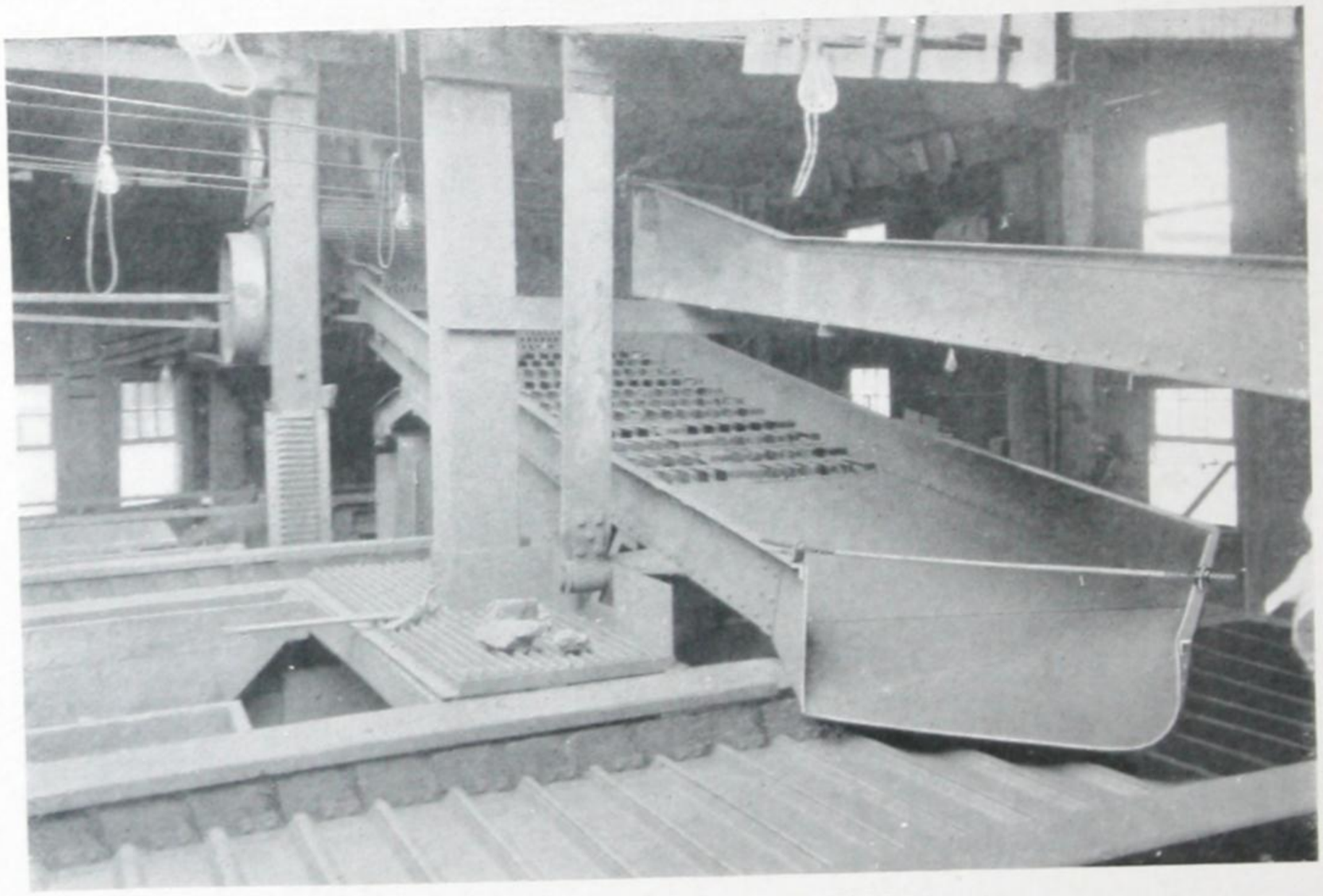
Tipple builders use them in large quantities. We show two photos of actual installations.

This screen does not clog, requires no pounding, gives an even distribution of material, insuring a more perfect separation. It is especially adapted for removal of flat, slabby pieces of slate and bone.

While flat shaker plates must be set on a decided pitch the flanged lip screen requires very little tilt to make it discharge readily, as the steps crowd the material forward, and keep it from backing and clogging the screen.

In tipples not equipped with shakers, but where sizing is done in the chute, flanged lip screens have been used with excellent results, displacing the old-fashioned screen bars.

Conditions vary considerably, especially in the preparation of bituminous coal. In some locations coal is soft, in others it is brittle. Some coal breaks with a cubical fracture, while



Actual Installation of the Flanged Lip Screen

others give a flat or splint break. No type of screen can be so readily adapted to meet these varying conditions as the flanged lip screen.

Its construction permits it being made to suit each requirement, which is not possible with the flat plate. The step and perforation may be varied, and blank spaces left as desired.



Actual Installation

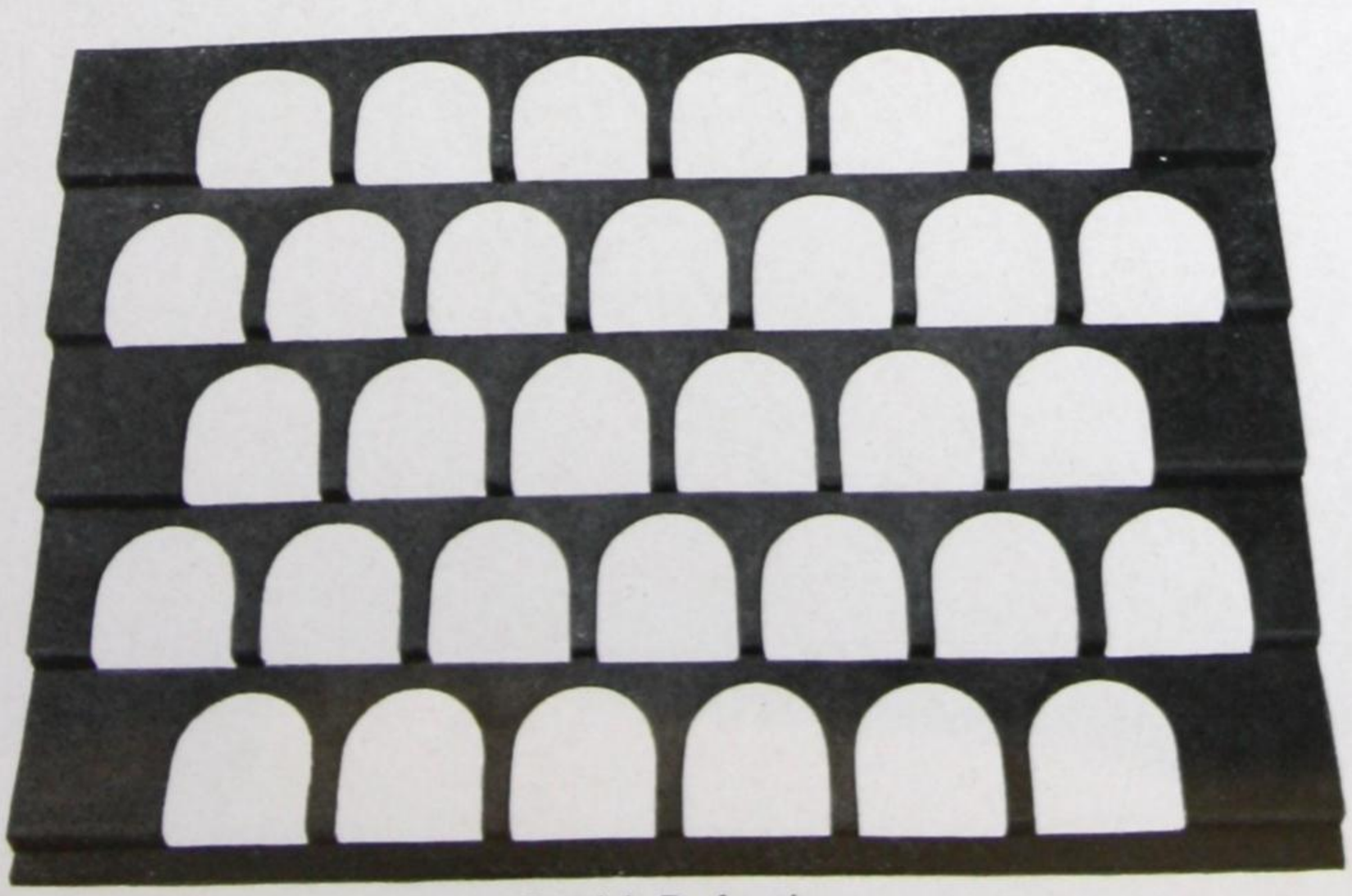
This screen is also meeting with favor in the screening of coke for the blast furnaces. One iron company has a large number in use giving perfect satisfaction and is recommending the screen to its friends.

We have tools for the following standard perforations:

Buckwheat - Inches	Gauge Number	Stove—No. 2	Gauge Thickness
$\frac{1}{8}$ x $\frac{3}{16}$ x 12	12	$\frac{5}{8}$ x $\frac{3}{4}$ x 12	$\frac{1}{4}$
$\frac{1}{8}$ x $\frac{1}{4}$ x 12	12	$\frac{5}{8}$ x $\frac{7}{8}$ x 12	$\frac{1}{4}$
$\frac{3}{16}$ x $\frac{5}{16}$ x 12	10	$\frac{3}{4}$ x 1 x 12	$\frac{1}{4}$
Pea—Inches	**Gauge Number**	**Stove—No. 1**	**Gauge Thickness**
$\frac{1}{4}$ x $\frac{3}{8}$ x 12	8	$\frac{7}{8}$ x 1$\frac{1}{8}$ x 12	$\frac{1}{4}$
$\frac{1}{4}$ x $\frac{1}{2}$ x 10	8	1 x 1$\frac{1}{4}$ x 10	$\frac{1}{4}$
$\frac{1}{4}$ x $\frac{1}{2}$ x 12	8	1 x 1$\frac{1}{4}$ x 12	$\frac{1}{4}$
Chestnut—Inches	**Gauge Number**	**Egg—Broken**	**Gauge Thickness**
$\frac{3}{8}$ x $\frac{1}{2}$ x 12	6	1$\frac{1}{8}$ x 1$\frac{3}{8}$ x 12	$\frac{1}{4}$
$\frac{3}{8}$ x $\frac{5}{8}$ x 12	6	1$\frac{1}{4}$ x 1$\frac{1}{2}$ x 10	$\frac{1}{4}$
$\frac{1}{2}$ x $\frac{5}{8}$ x 10	6	1$\frac{1}{4}$ x 1$\frac{1}{2}$ x 12	$\frac{1}{4}$
$\frac{1}{2}$ x $\frac{5}{8}$ x 12	6		
$\frac{1}{2}$ x $\frac{3}{4}$ x 10	6		
$\frac{1}{2}$ x $\frac{3}{4}$ x 12	6	1$\frac{3}{4}$ x 2 x 12	$\frac{1}{4}$

Special sizes can be furnished if desired. (See illustration.)

In ordering, state exact dimensions of plates in inches, gauge and size of perforations, and direction in which the material is to run.



Special Perforation

MANGANESE BRONZE SCREENS

MANGANESE BRONZE SCREENS are used extensively in the anthracite coal region to withstand the action of acidulated mine water. This material is also used for strainers, ventilators and in sewage disposal systems. It is claimed that screens of this metal will last five times longer than steel, but this varies under conditions at places of installation.

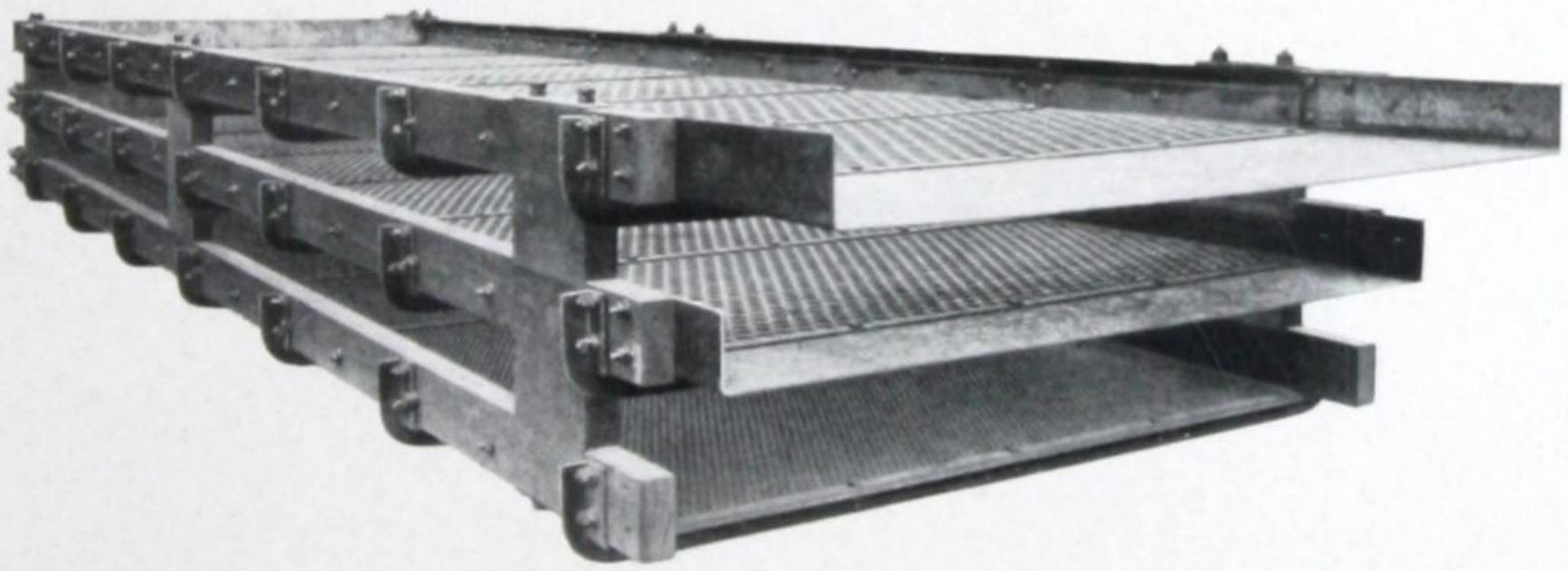
We have been selling one make of manganese bronze for over twenty-five years, and the results obtained have always been most satisfactory.

We can furnish perforated sheets, flat, flanged or curved, with bolt holes, or plain material of a special temper for chutes. We carry several sizes in stock. Gauges and weights per square foot given in table on pages 115 and 116.

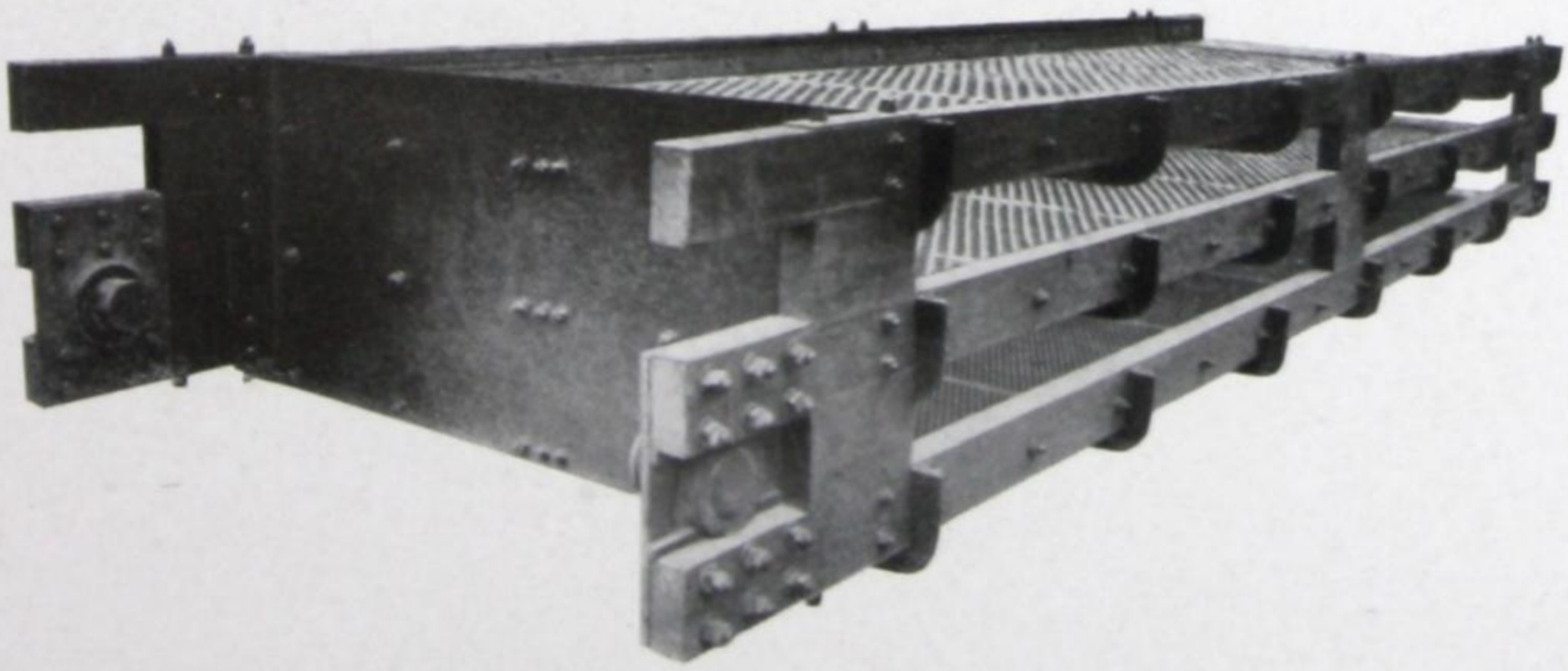
Below we list the gauges and meshes that are generally used in the preparation of anthracite coal.

MESH	B. W. G. No.
$\frac{3}{16}$-inch Round and larger	10 or 8
$\frac{1}{8}$-inch and $\frac{5}{32}$-inch Round	12
$\frac{3}{32}$-inch Round	14
$\frac{1}{16}$-inch Round	16
$\frac{3}{64}$-inch Round	18

SHAKING SCREENS



Discharge End of Shaker

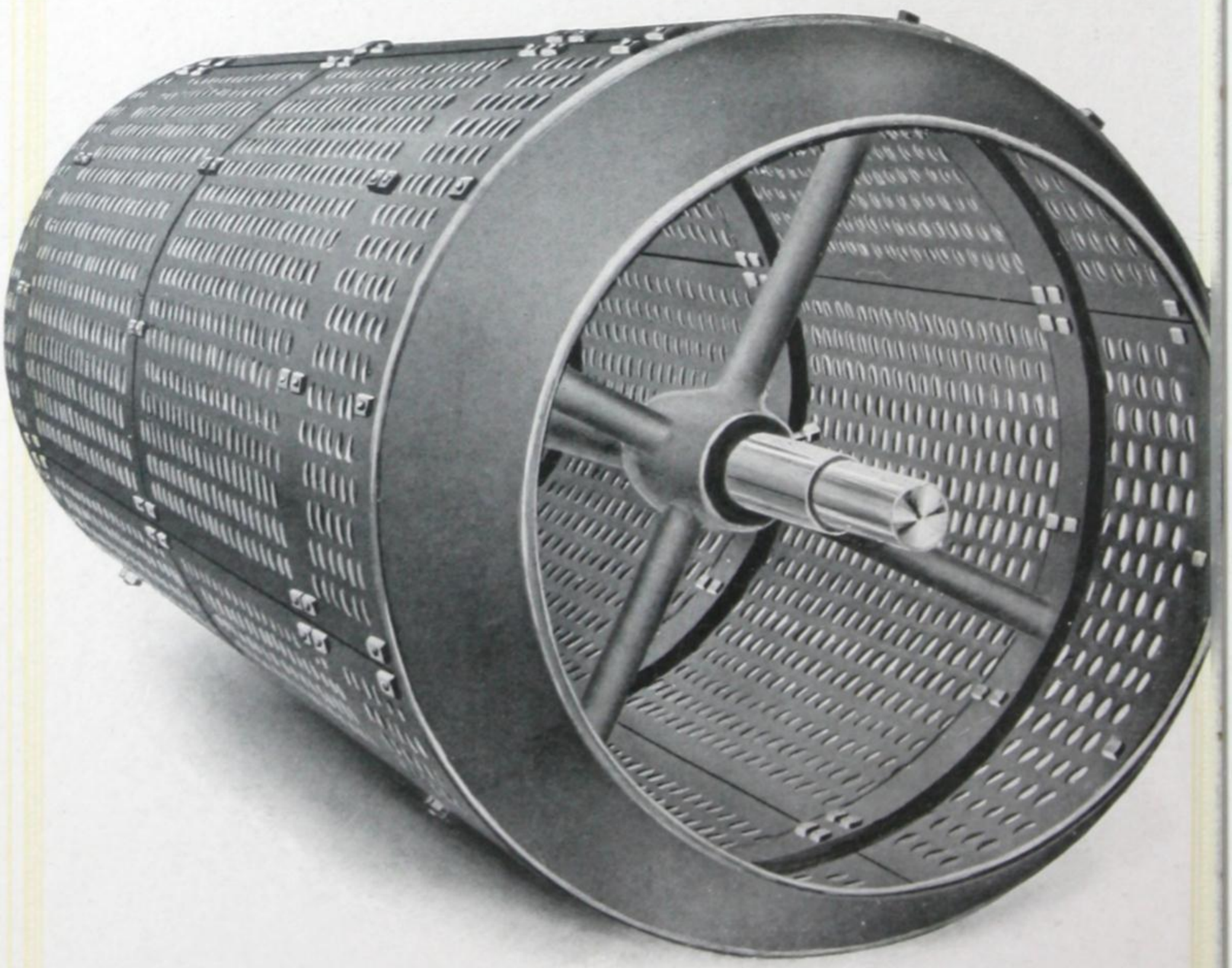


Back End of Shaker

THESE SCREENS are used in coal breakers, tipples or sand and gravel plants. We build these screens complete in our plant. Can furnish channel or wood sides. Special types of hangers supplied if desired.

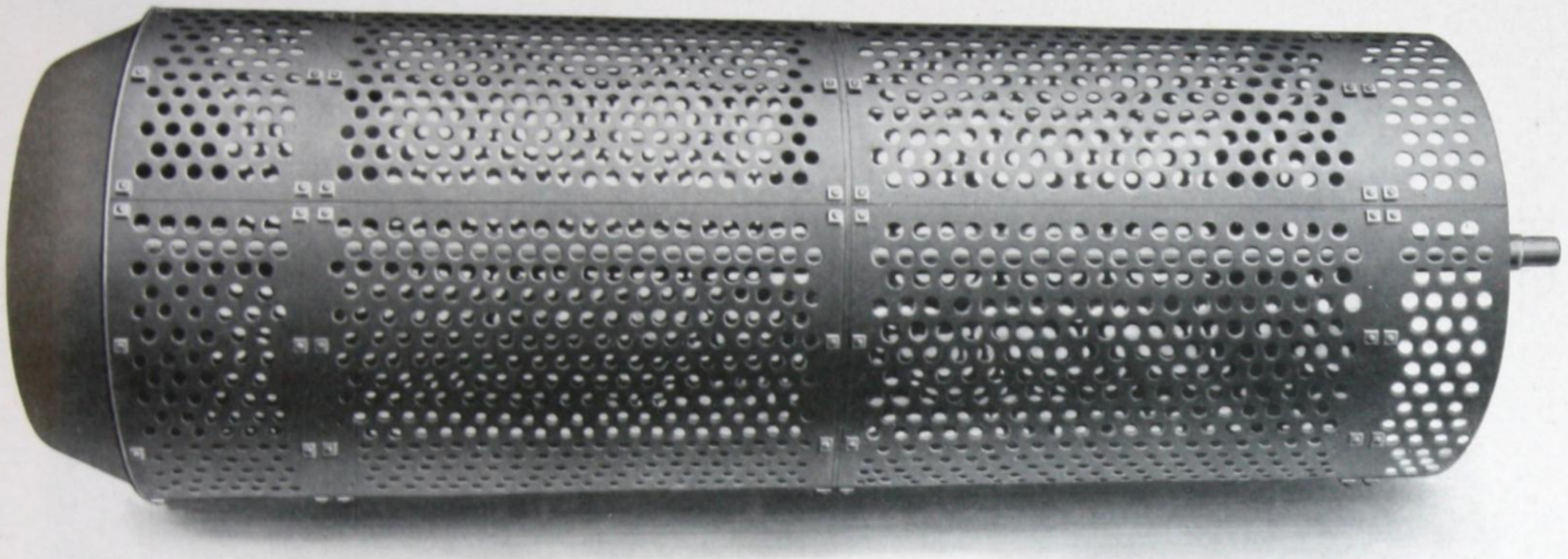
REVOLVING SCREENS

STRAIGHT AND CONICAL



THESE SCREENS are built to specifications. Made of thickness of plate and perforations to suit all requirements in any desired number of sections. Internally supported by shaft and spiders, or externally supported by rings and trunnions.

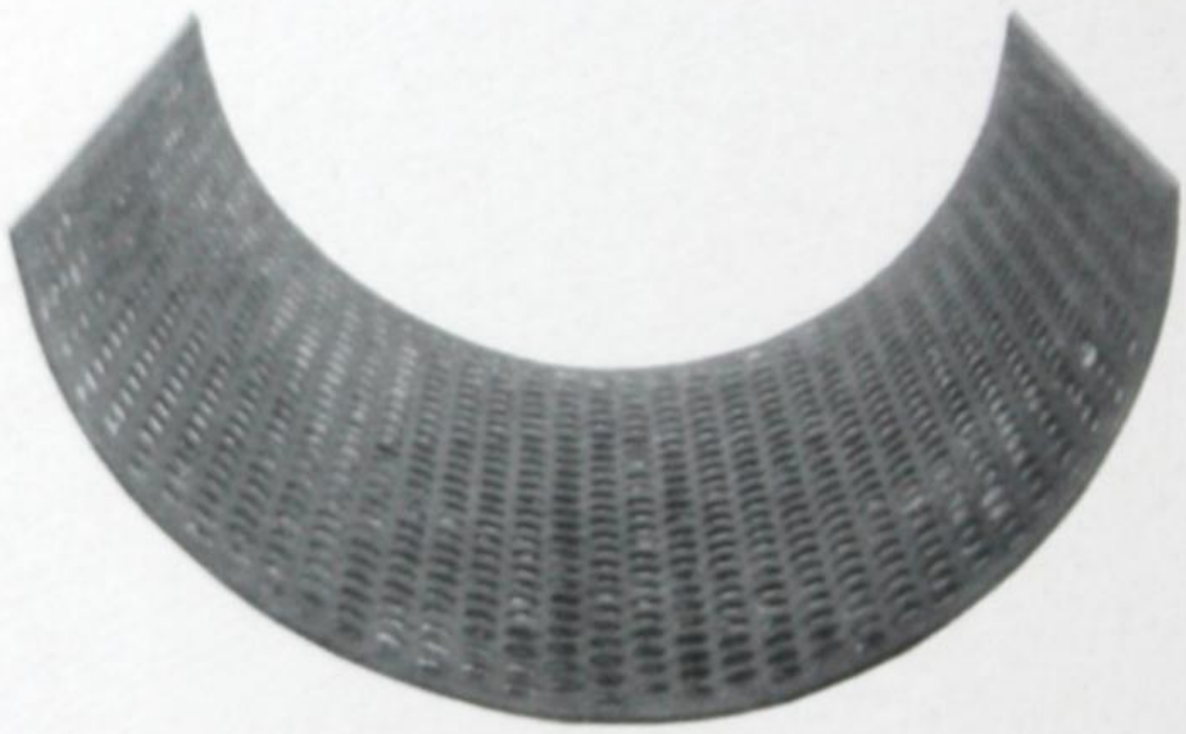
REVOLVING SCREENS



(Side Elevation)

CYLINDRICAL SCREEN SECTIONS AND SEGMENTS

FOR REVOLVING SCREENS





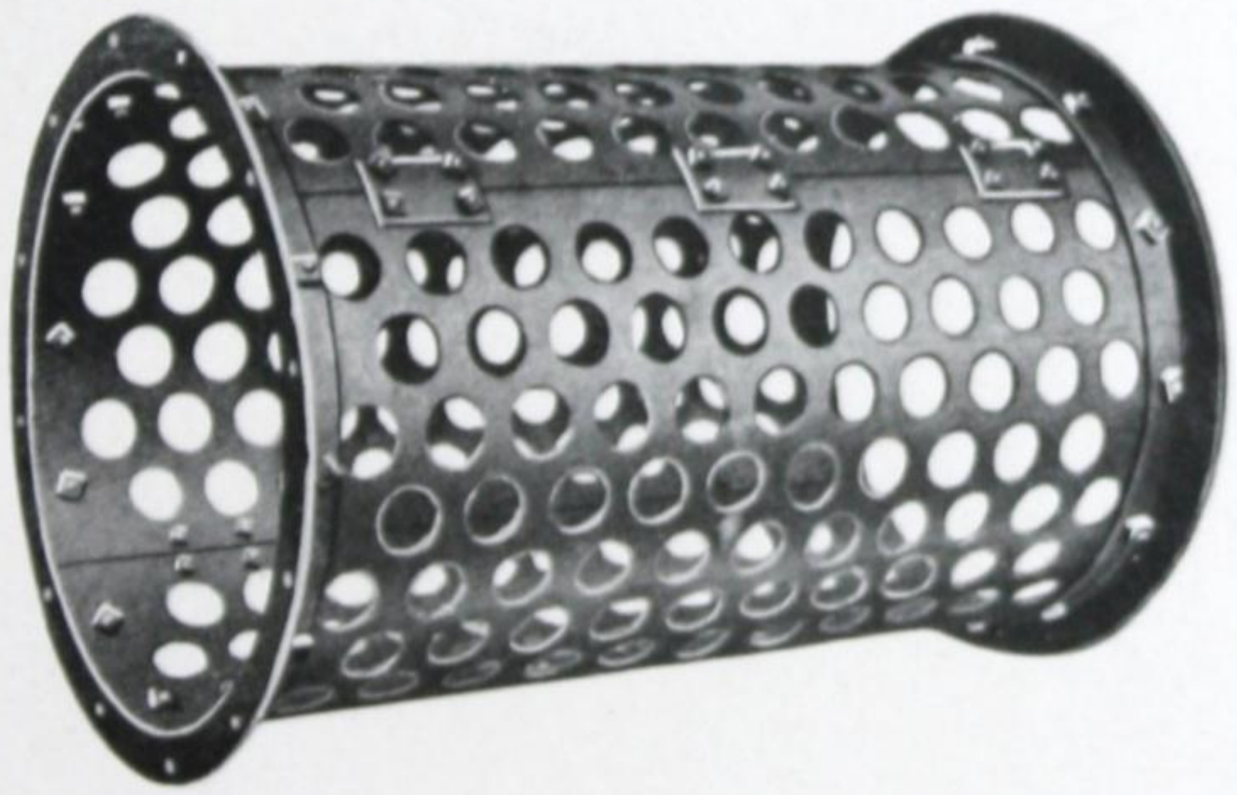
SCREEN SECTIONS rolled to exact diameter in any number of pieces to round, made of thickness and perforations to suit all requirements, butt joints fastened with clips or strap or lap joints bolted or riveted.

We carry a large stock of blank plates for screen sections.

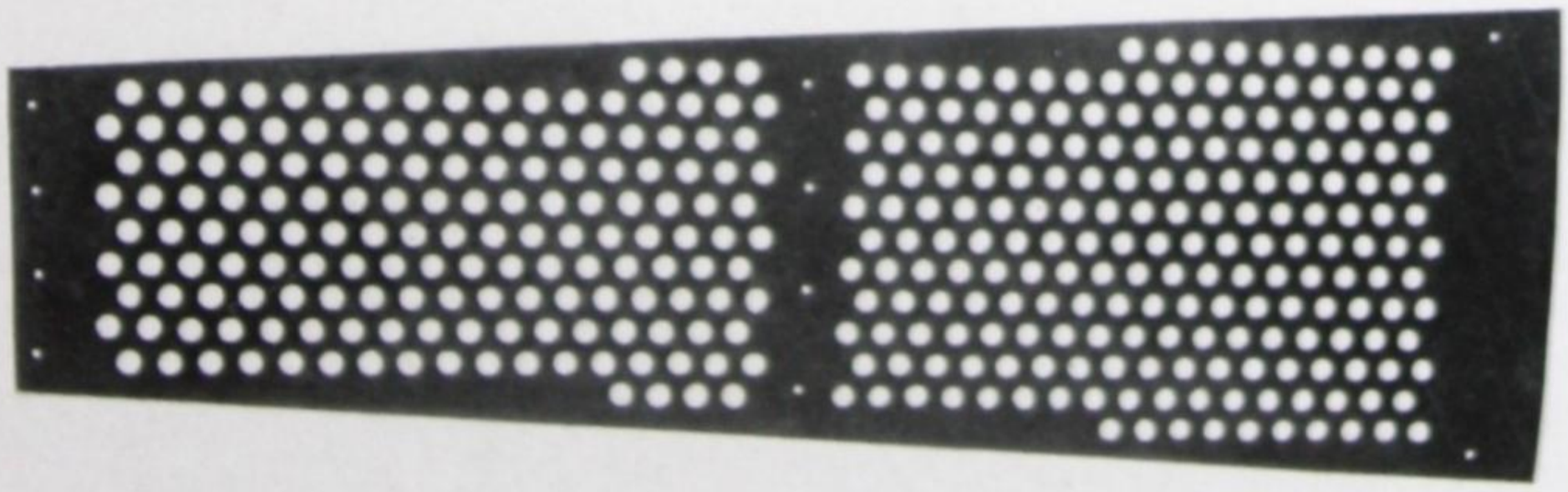
Page 89 gives useful information pertaining to stone screens. Circumferences and areas of circles on pages 119 and 120

CYLINDRICAL SCREEN SECTIONS

WITH ANGLE-IRON RINGS ATTACHED



WE ARE PREPARED to furnish this style screen in any required size. In ordering, state thickness of steel plate, outside diameter, length of section, size of perforation, also size of angle iron.



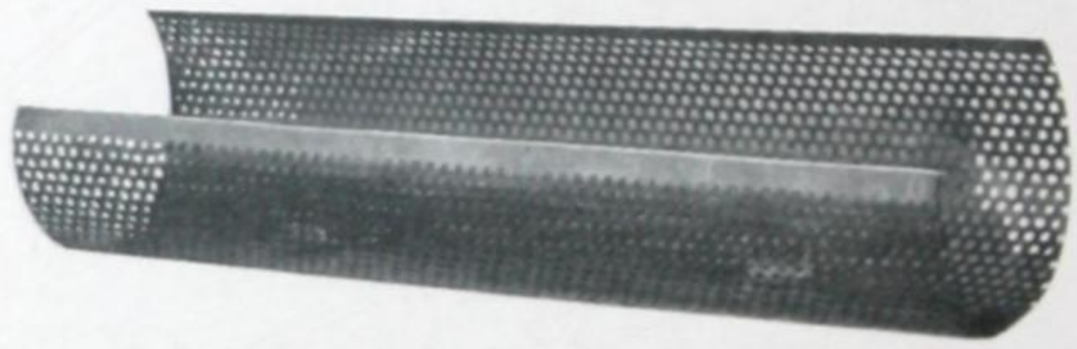
Conical Screen Section

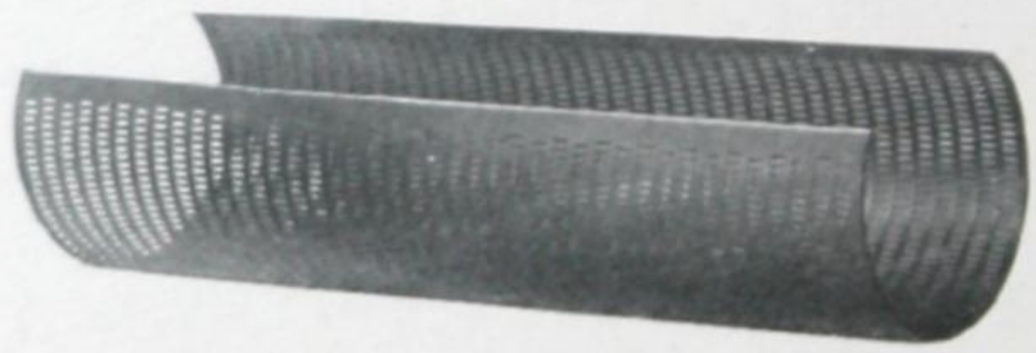
Plate for conical screen before rolling. Used in stone, rock and ore-crushing plants. Furnished in high carbon steel to insure long service. Can be supplied with more than one size of perforation.

Page 89 gives useful information pertaining to stone screens. Circumferences and areas of circles on pages 119 and 120

SCREENS FOR COTTONSEED OIL MILLS

SCREENS are furnished flat for shakers and separators, and curved for conveyor lining, perforations round or slotted. See list of sizes on pages 55 to 65. We can also supply plain conveyor lining.





A large stock of blank sheets and frequent orders from users of this material permit us to ship promptly all orders for these screens.

In ordering, the following information should be given so that there will be no delay in shipping:

Number of sheets. If for conveyor, state the diameter. Gauge of steel. If you cannot determine this, we will furnish the proper gauge if you state the screens are for cottonseed oil work.

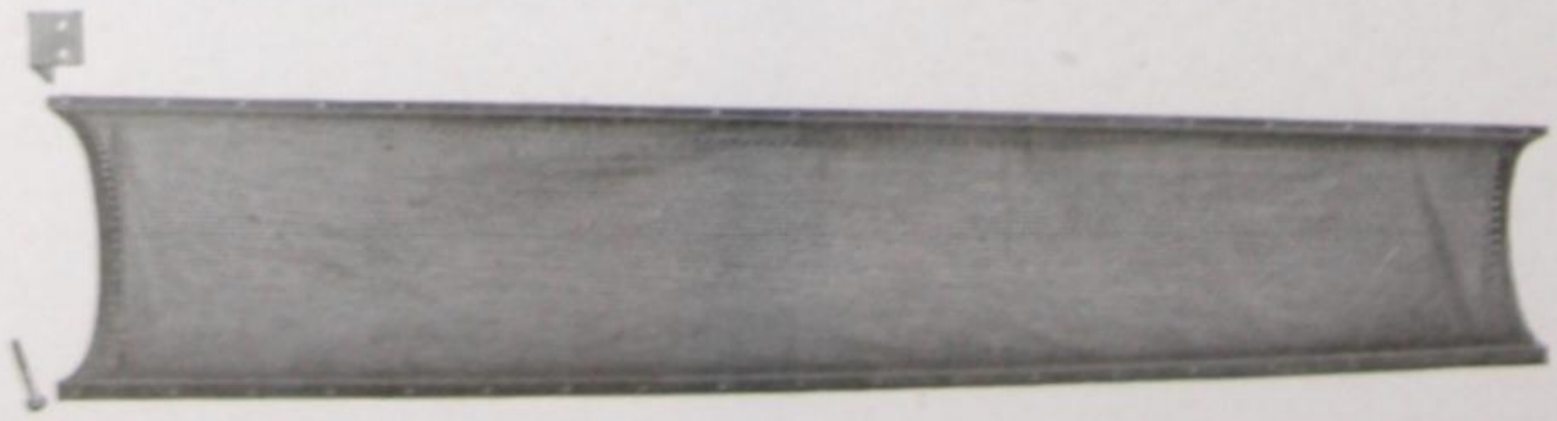
Size of sheet. Width of margin on ends and sides. State if nail holes are wanted in margins. Size of perforations, round or slotted. If slotted specify whether they are to run lengthwise or crosswise.

For conveyors used for taking the sand out of seed, screens with $\frac{1}{8}$ x $\frac{3}{4}$-inch slotted holes, or $\frac{5}{32}$-inch round holes, are preferred.

Due to conditions, various sizes of round and slotted perforations are used for separating the meats or kernels from the seed or hulls. The round perforations running from $\frac{3}{32}$ to $\frac{1}{4}$ inch and the slotted from $\frac{3}{32}$ x $\frac{3}{4}$ inch to $\frac{1}{8}$ x 1 inch in curved sheets for conveyors and flat sheets for shakers.

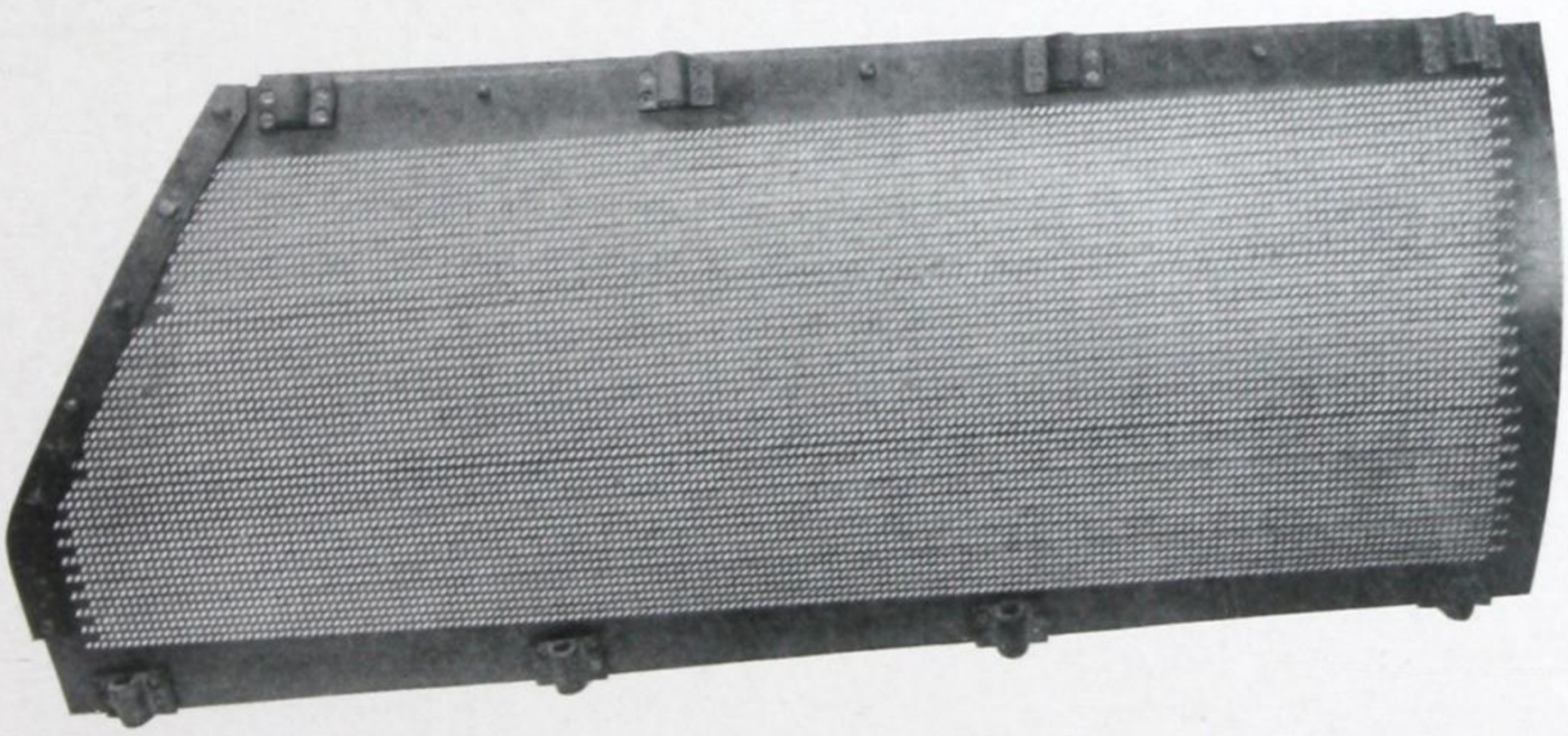
Screens with $\frac{1}{2}$ to $\frac{5}{8}$-inch round perforations are used for separating the bolls and locks of cotton from the cottonseed.

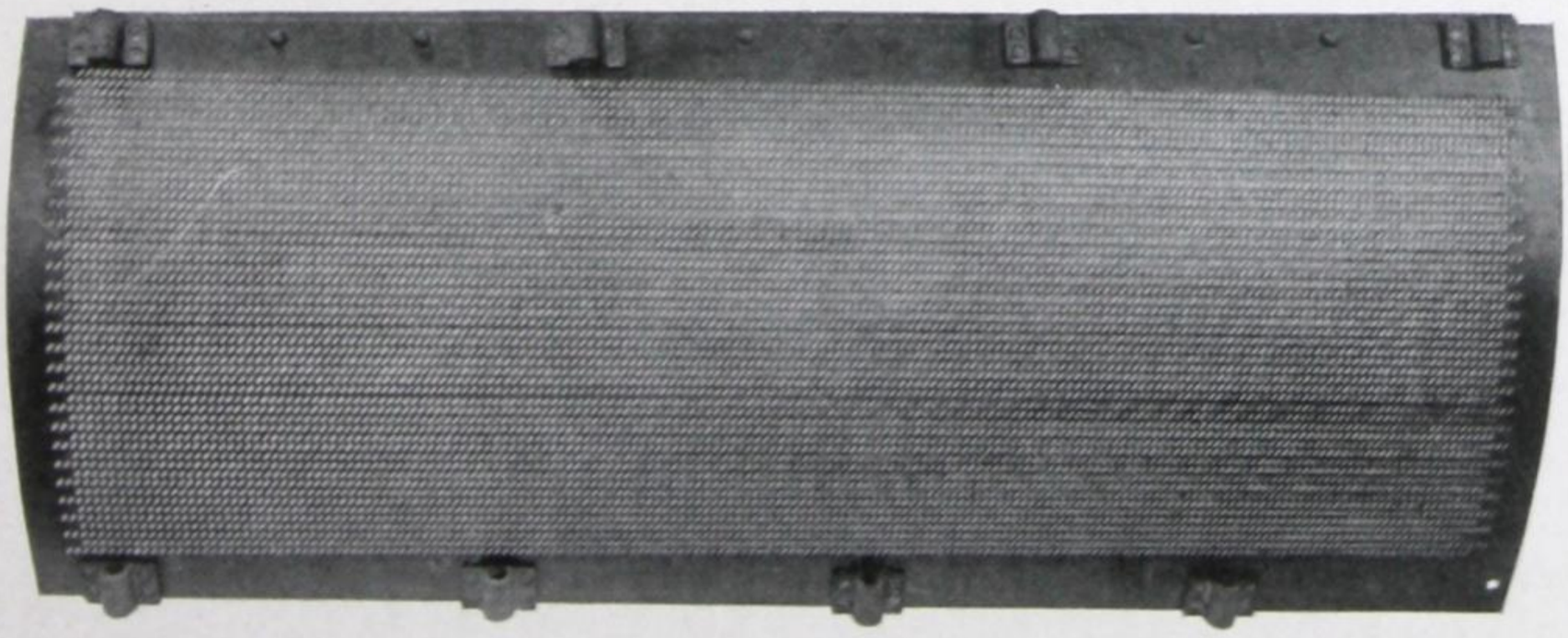
The above should be varied to suit local conditions.



SCREENS FOR SMIDTH KOMINUTERS

FOR SCREENING CEMENT AND ORE

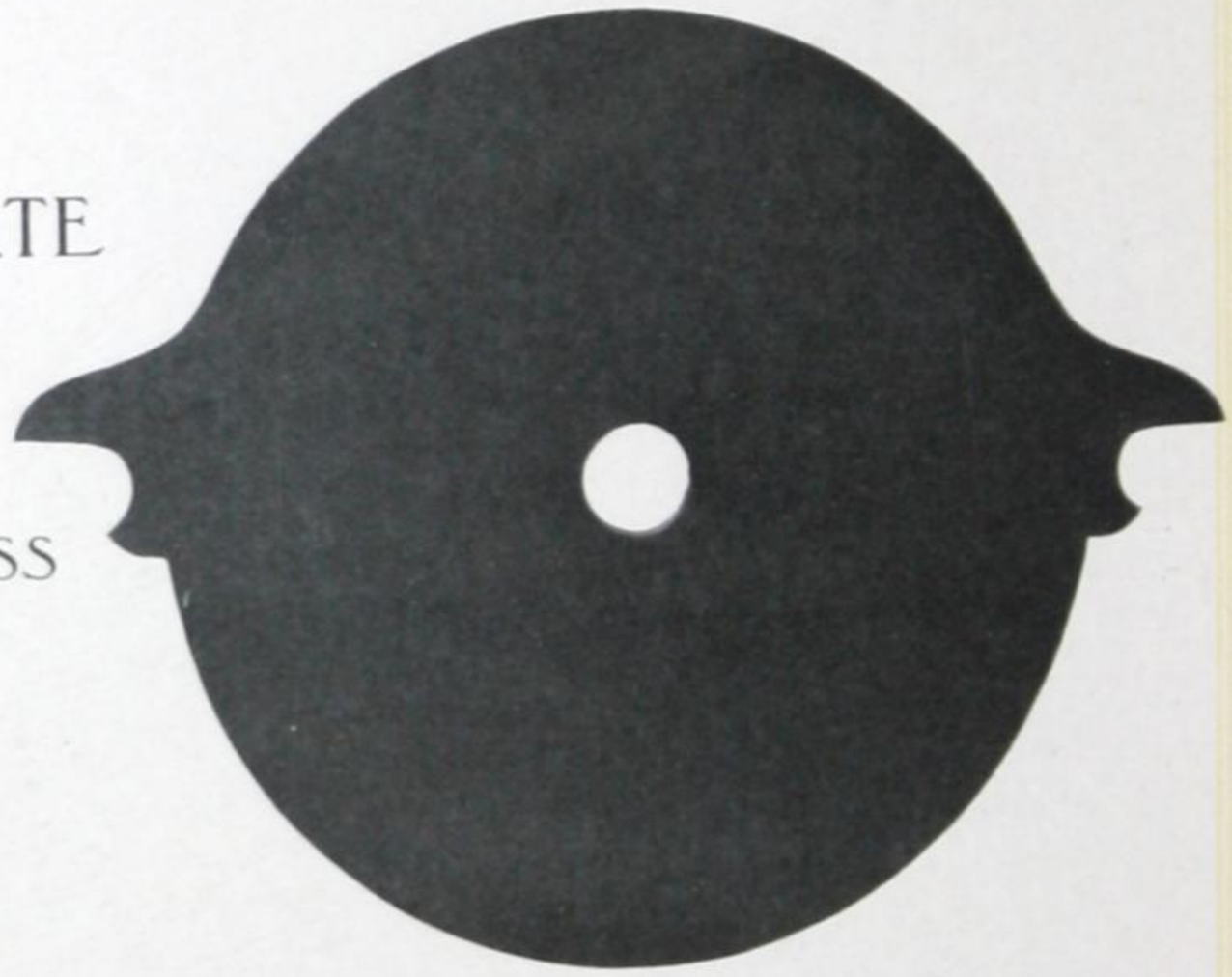




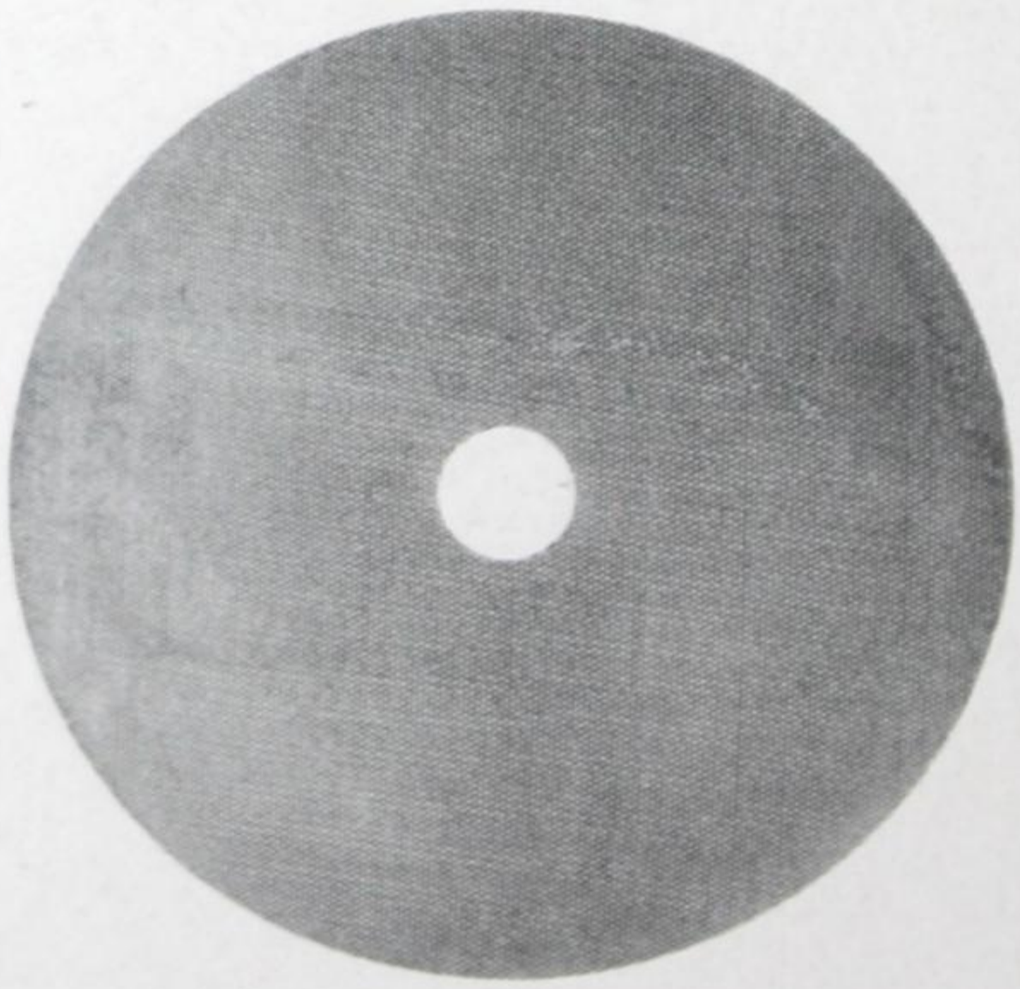
THESE SCREENS are used for screening cement and ore. Kominuter screens are also used for clay. Furnished with bars and lugs if desired.

CENTER PLATE AND SIDE SHEETS

FOR FILTER PRESS PLATES



Center Plate



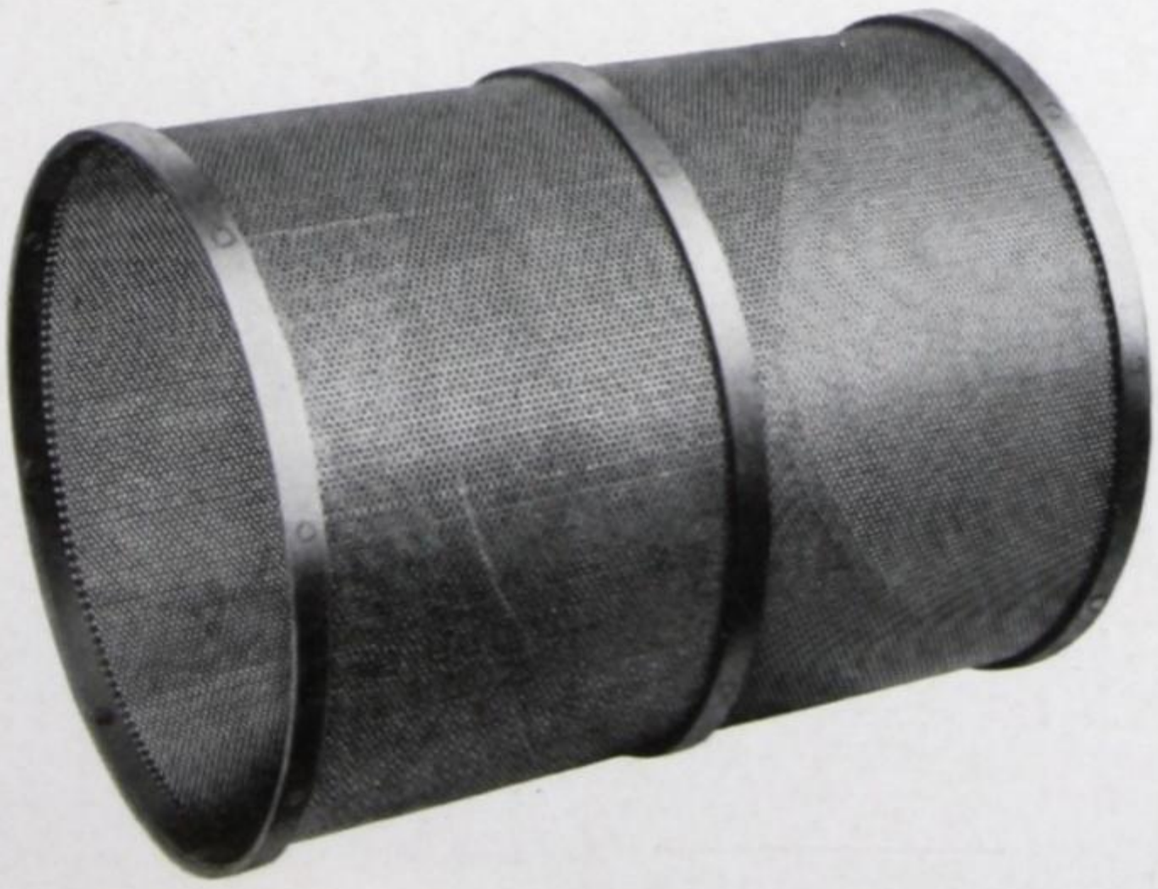
Side Sheet

THE ABOVE CUT shows the usual form of the center plate. It is made in various sizes from 24 to 48 inches in diameter and is generally made of No. 10 steel in the smaller sizes and $\frac{3}{16}$-inch in the larger.

The side sheets are practically the same diameter as the center plate and are made in Nos. 16 to 20 gauge, Nos. 18 and 20 being the usual thicknesses. Perforations usually $\frac{1}{8}$ or $\frac{5}{32}$-inch, generally the latter. One side of the perforation is generally burred in order to secure free drainage.

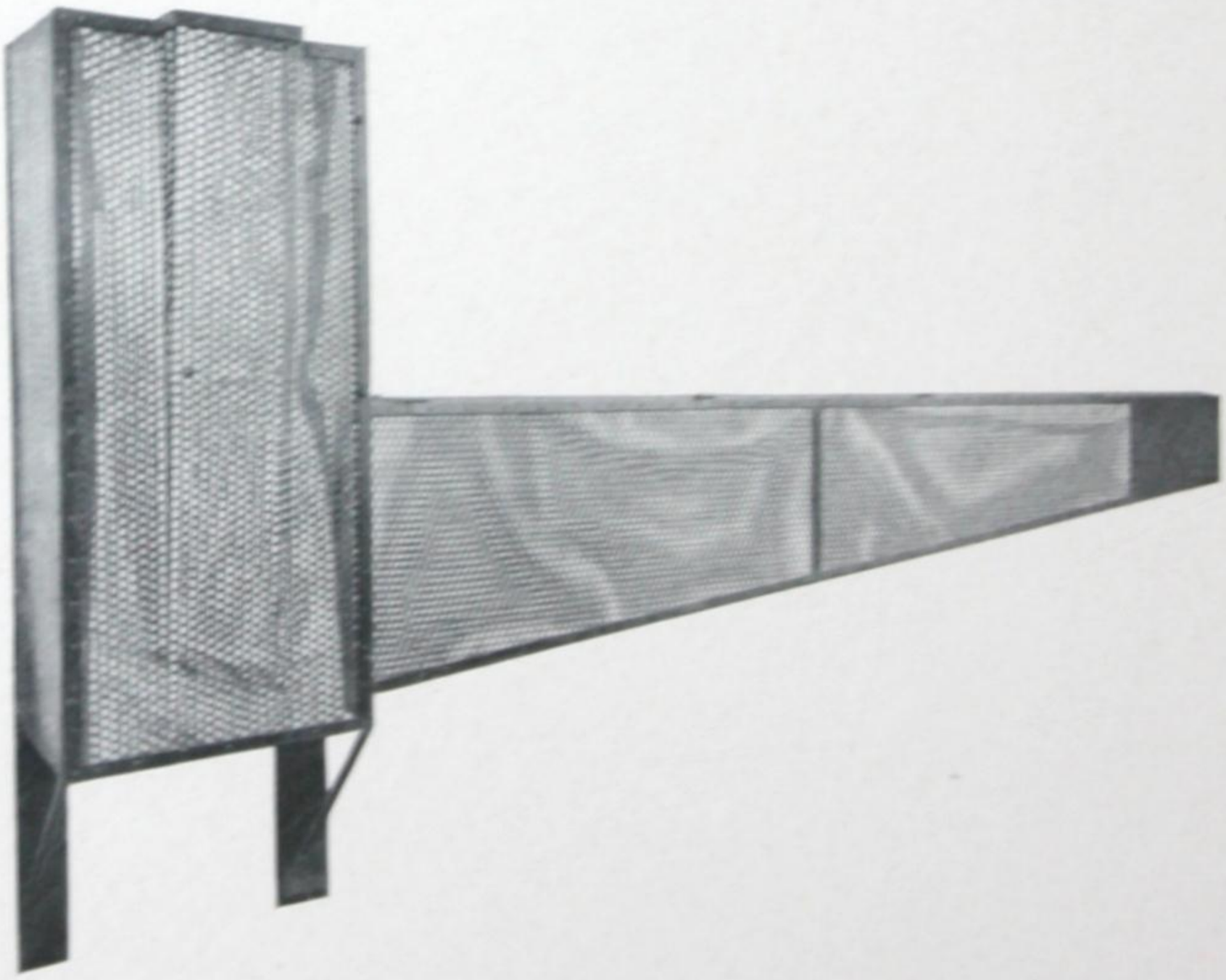
STRAINERS FOR LOCOMOTIVES





We are illustrating but two styles of strainers we manufacture for locomotives
We can make any size in steel, brass or copper, furnishing the perforation desired

PERFORATED METAL GUARDS



We do not carry the perforated material in stock, but make up specially for each order. These guards can be built in any size desired, with angle or bar iron stiffeners. Doors can be put in same so that machine parts may readily be oiled and cleaned.

SCREENS FOR STONE, ROCK, SAND, GRAVEL, ETC.

FOR OVER THIRTY YEARS we have been furnishing screens for this work, and the fact that year after year we have been supplying many of the largest crushing plants with their perforated sections allows us to state that our product and service have been satisfactory.

On pages 80 to 83 we have shown several types of screens that are used. We do not attempt to specify any standard size of screen or section as this depends upon the equipment. These screens are furnished flat, curved to circle, lap, or butt joints with clips and bolts. If desired, we supply the necessary angle or tee rings for the ends of the sections, with necessary countersunk head bolts and nuts including lock washers for fastening to equipment.

While it is impossible to give any standard of gauges and perforations owing to the variation in the specifications of the different states, the list below will usually answer.

	Through Inches	Thickness of Metal Inches	Over Inches	Thickness of Metal Inches
No. 4—Road Stone	3¾	⅝	3	⅝
Railroad Ballast	3	⅝	2	½
1½ Stone	2	½	1¼	½
¾ Stone	1¼	½	⅝	⅜
1A	⅝	⅜	5/16	¼

SCREENS FOR THE CLAY INDUSTRY

IT HAS BEEN FOUND that Perforated Metal Screens are vastly superior to any other type of screen used in the industry. These screens can be furnished in any desirable width and length. The perforations are uniform, blank spaces or margins can be left as desired, which is not possible with other types of screens. Finally, the perforated metal screen lasts longer and is easily and cheaply replaced.

Screens with oblong holes are frequently used in chutes or incline screens and are easier to keep clean, but screens with round holes give better grading of sizes.

We do not recommend any sizes of perforations for this work, as it depends upon the nature of the material. We are, however, specifying below some of the sizes that are ordered by large users:

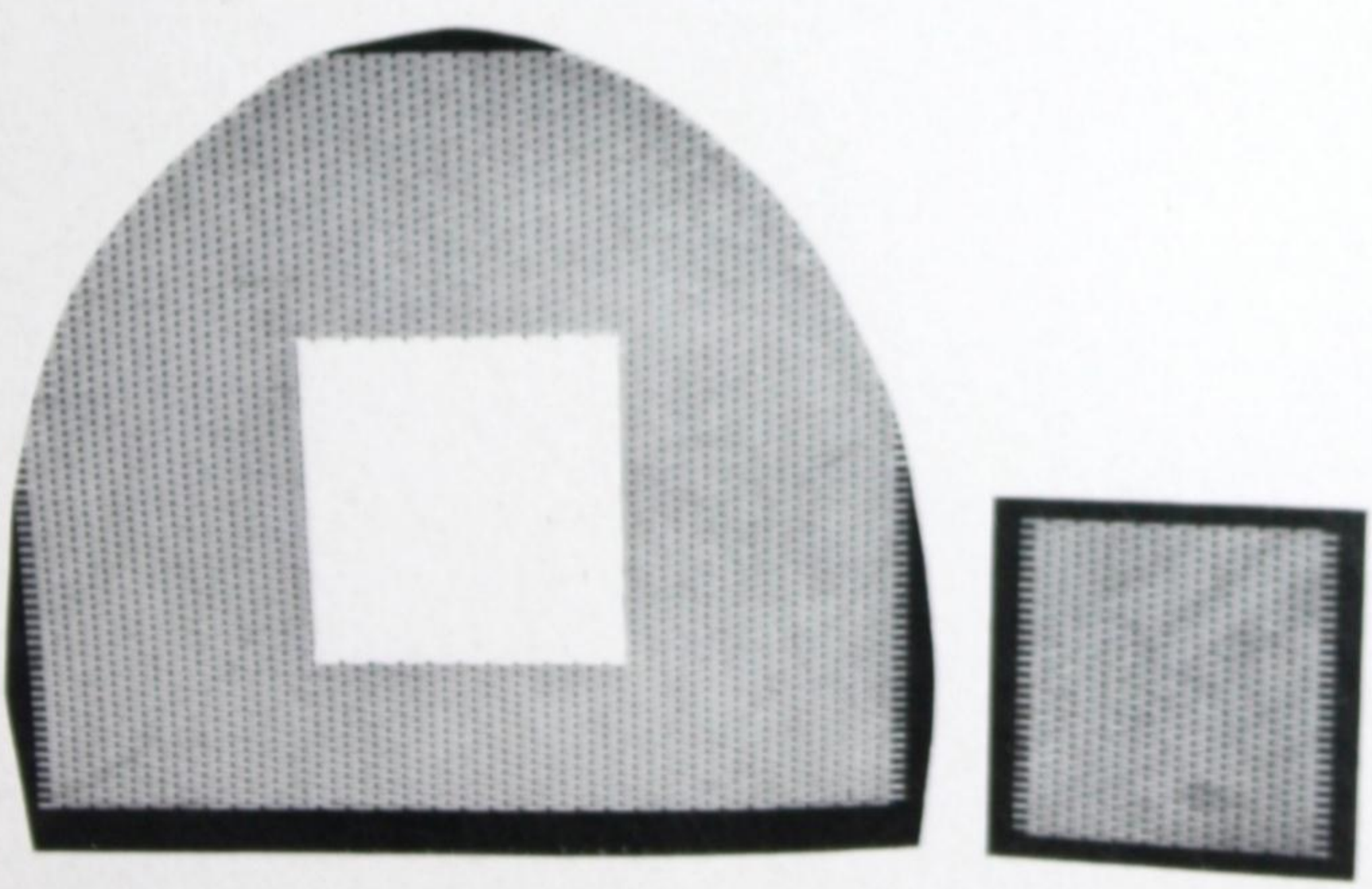
Round—⅛ inch, $\frac{3}{32}$ inch, $\frac{3}{16}$ inch, ¼ inch.
Diagonal—$\frac{1}{16}$ x ½ inch, $\frac{3}{32}$ x ½ inch, ⅛ x ½ inch, $\frac{5}{32}$ x ½ inch, $\frac{3}{16}$ x ½ inch, ¼ x ½ inch, .049 x ½ inch, .058 x ½ inch.
Straight—$\frac{1}{32}$ x ½ inch, $\frac{1}{16}$ x 1 inch, $\frac{3}{32}$ x 1¼ inch.
End—$\frac{3}{32}$ x ¾ inch.

In the front of this book we show several reproductions of perforations, and also lists on pages 55 to 65 giving the various sizes and shapes of holes we are prepared to furnish. In ordering screens with slotted perforations, state in which direction the holes are to run or send a rough sketch indicating same.

If you are not positive as to the gauge, give the number of sheets required, size, perforation round or slotted, stating that the screens are for the clay industry and we will furnish the thickness generally used.

We carry a large tonnage of blank sheets and orders receive every possible attention. Small samples showing size and style of perforations will be sent upon request.

PERFORATED METAL SPARK ARRESTERS
FOR LOCOMOTIVE FRONT ENDS



Locomotive Spark Arrester and Door Plate

THE PERFORATED METAL SPARK ARRESTER has given the utmost satisfaction to its users. Other materials are on the market, but the perforated screen is more durable and economical.

Perforated spark arresters do not lose their mesh. Blank spaces may be left around the edges if desired. The metal is rigid in itself, requiring no frame; saving time in installation. Furnished in rectangular sheets or cut to shape.

It can be furnished in various sizes of perforations and gauges to meet requirements. The sizes of mesh generally used are $\frac{3}{8}$ x 1 $\frac{1}{4}$, $\frac{3}{8}$ x 1 $\frac{1}{2}$, $\frac{1}{4}$ x 1 $\frac{1}{4}$ and $\frac{1}{4}$ x 1 $\frac{1}{2}$, hit and miss, sideways. Nos. 8 to 14 U. S. steel gauges, but others can be supplied. See page 61.

We have been furnishing many railroads for years and will be glad to submit samples and prices upon request.

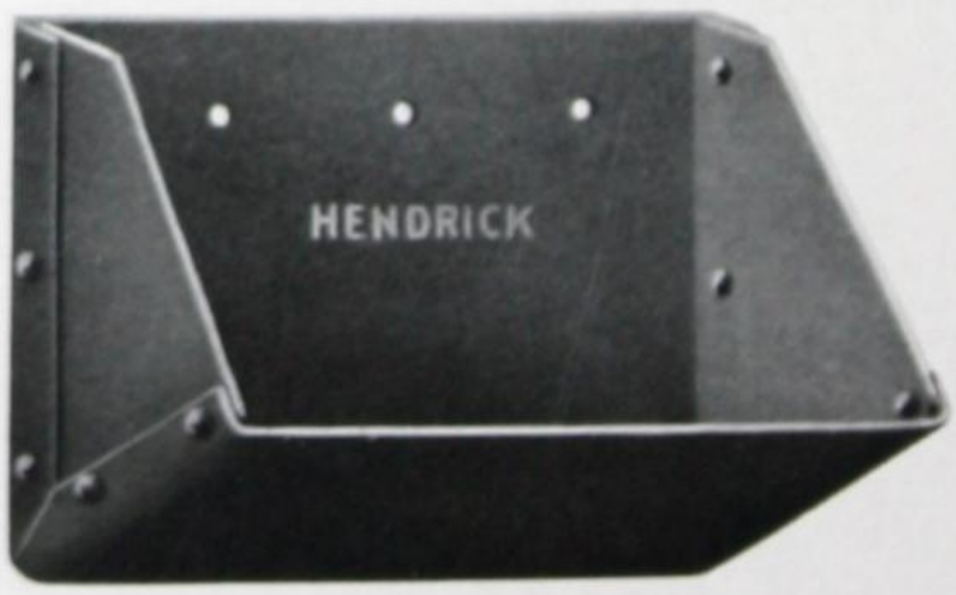
ELEVATOR BUCKETS, CONVEYOR TROUGH AND FLIGHTS

A LARGE PART OF OUR PLANT is devoted to the manufacture of elevating and conveying equipment. In this department we have the necessary machinery for the manufacture of Elevator Buckets of every description, Conveyor Trough and Flights for Scraper and Apron Conveyors, Picking Tables and Loading Booms.

We will be pleased to receive your orders or quote prices on receipt of specifications with blueprint or sketch.

SOME STYLES OF ELEVATOR BUCKETS WE MANUFACTURE

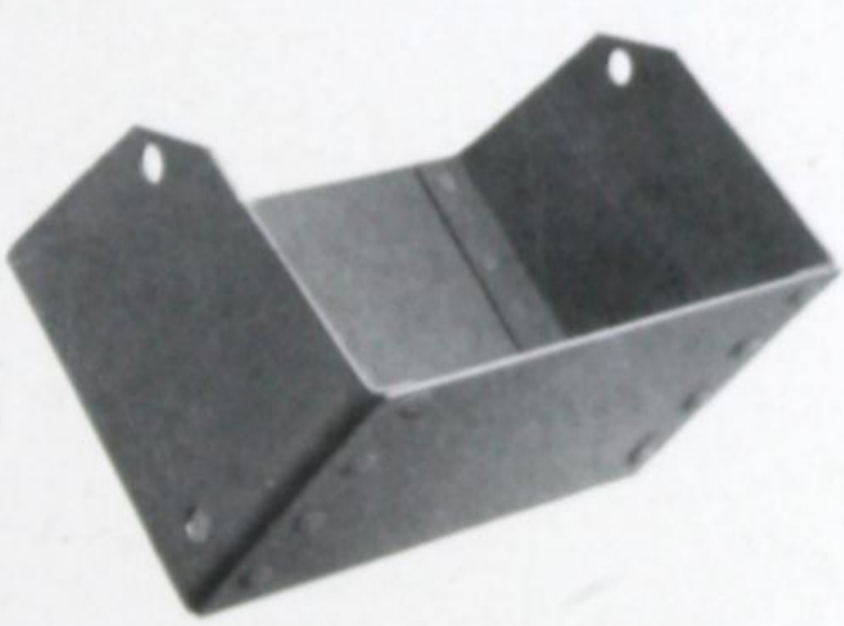






Built to meet requirements. Made complete in our plant

ELEVATOR BUCKETS

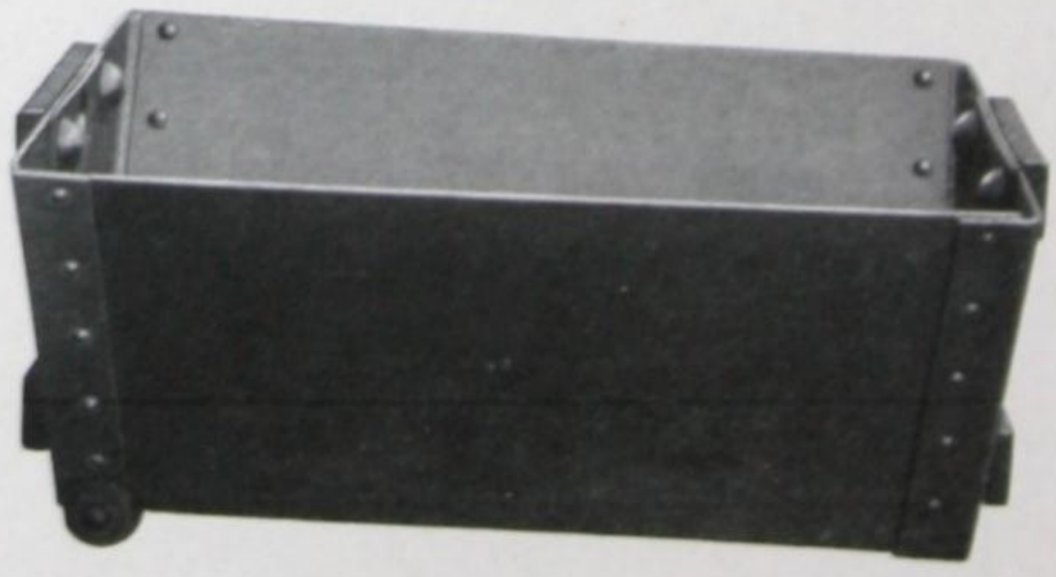




Built to meet requirements. Made complete in our plant

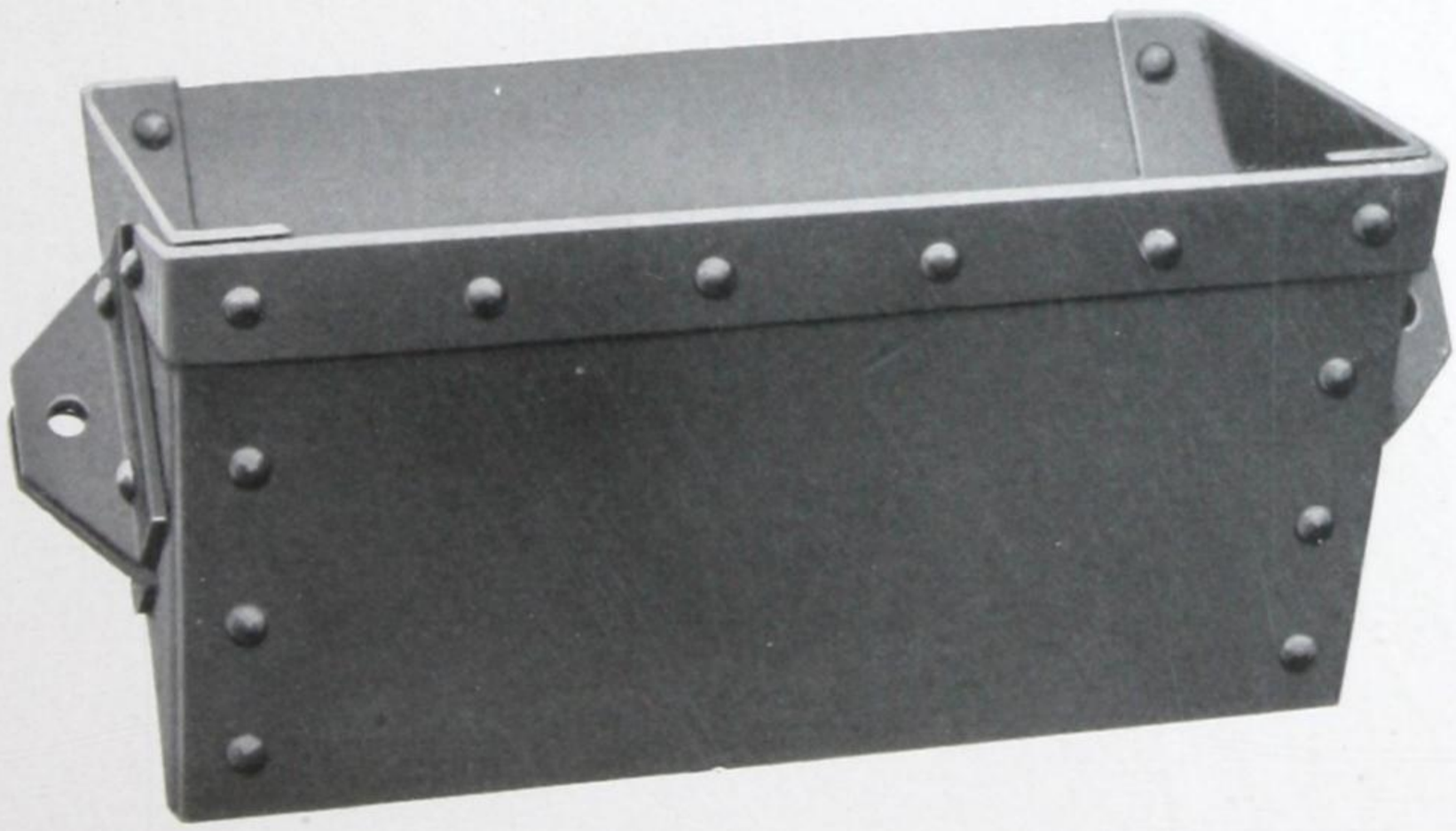
ELEVATOR BUCKETS

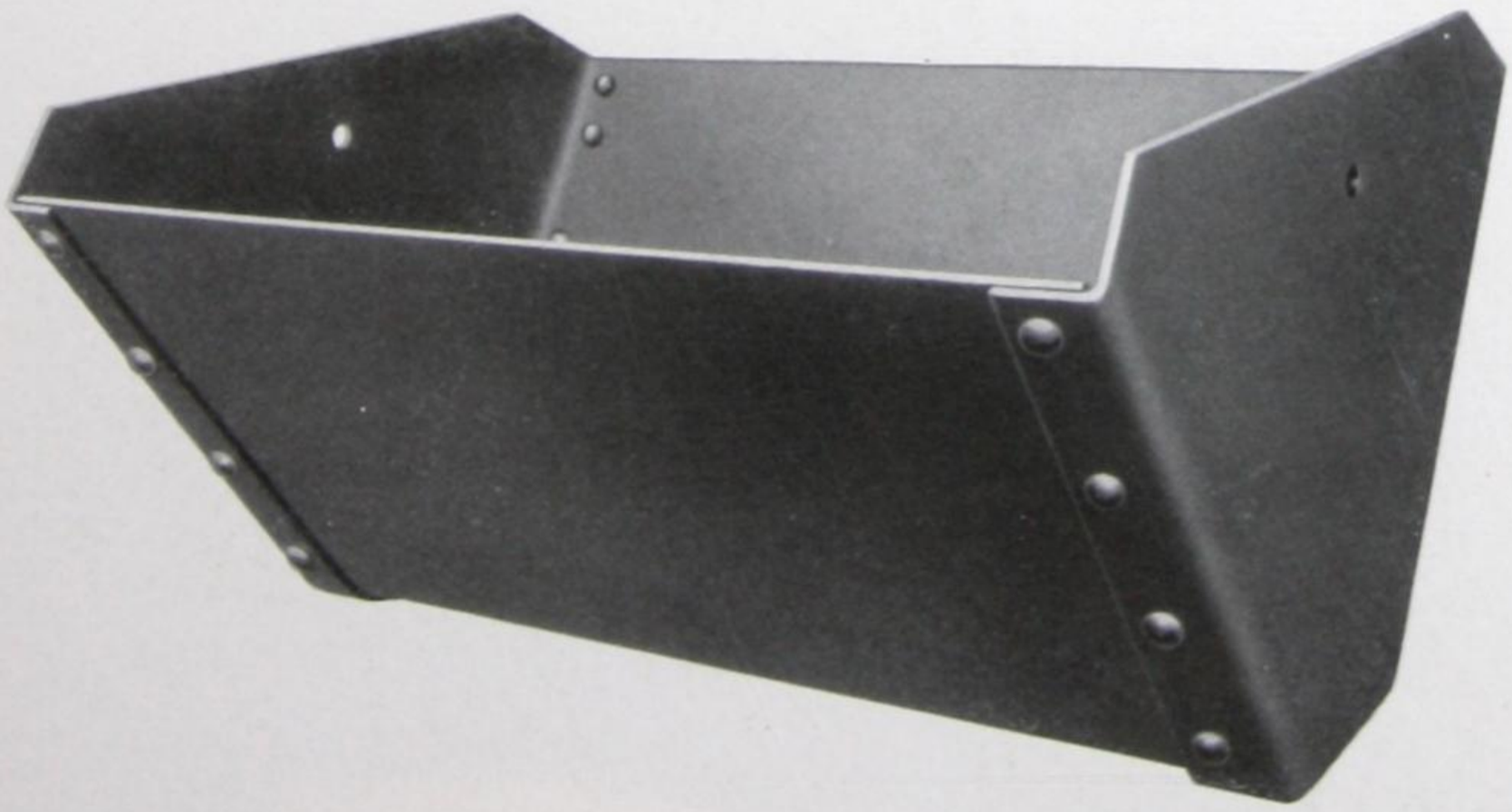




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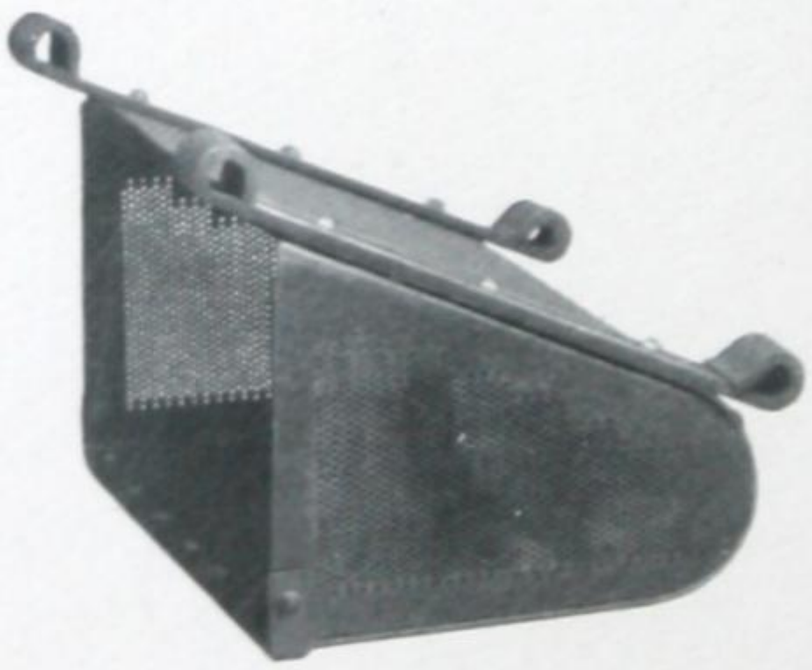
ELEVATOR BUCKETS

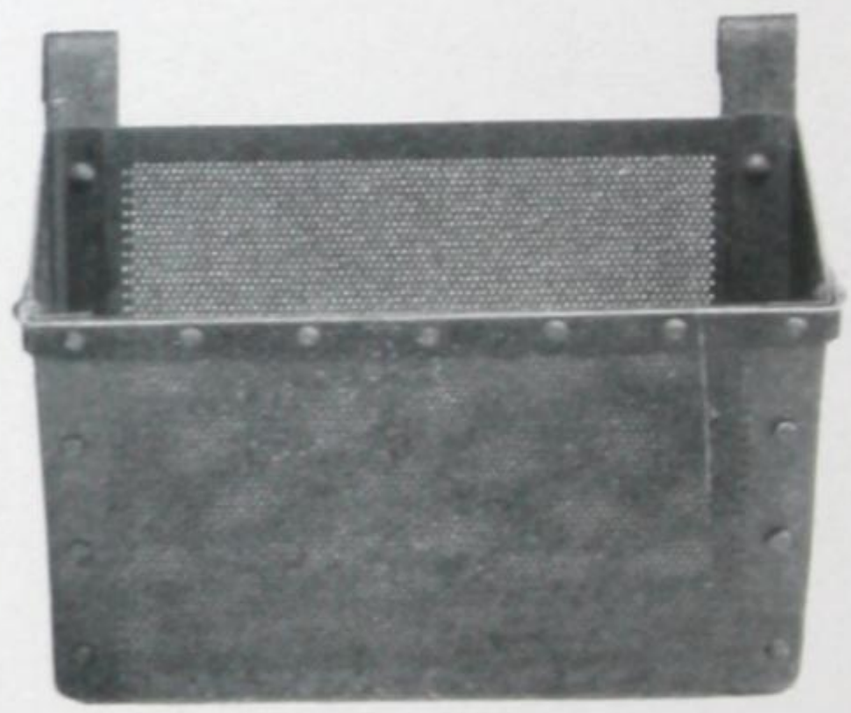




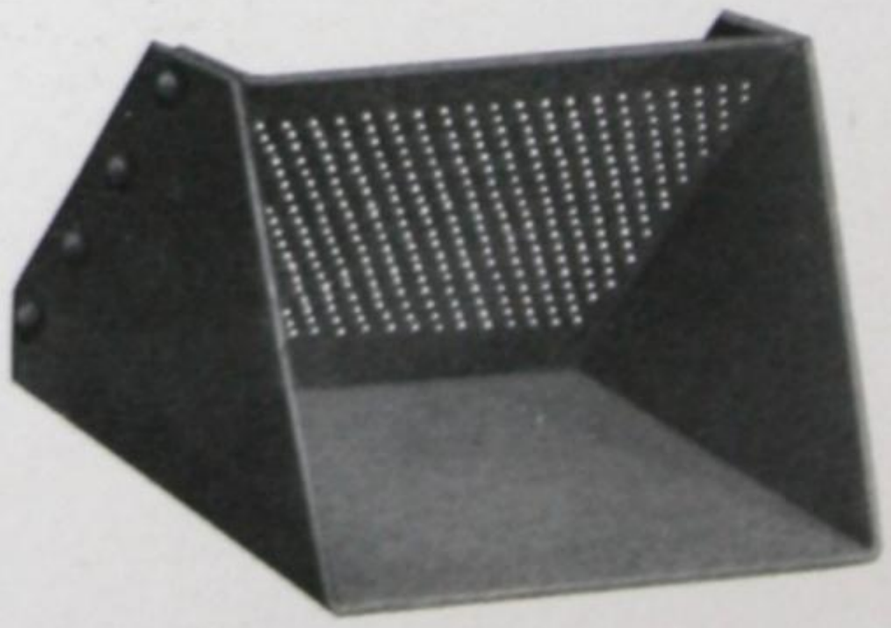
Built to meet requirements. Made complete in our plant

PERFORATED ELEVATOR BUCKETS



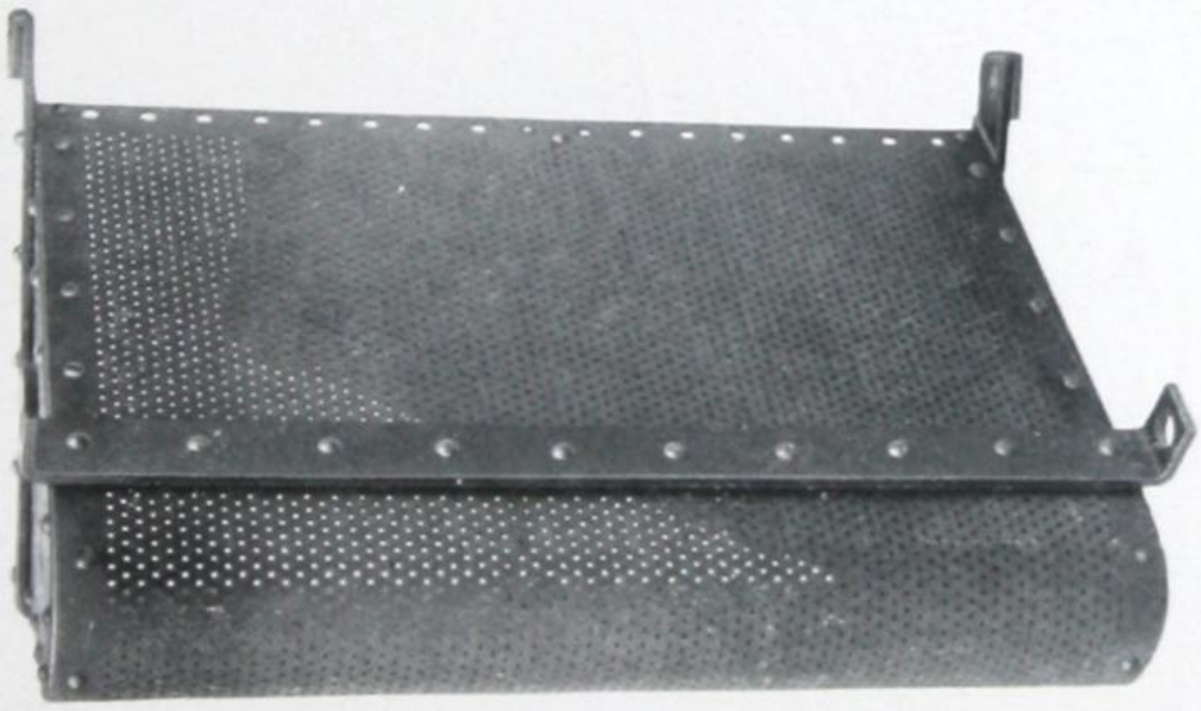


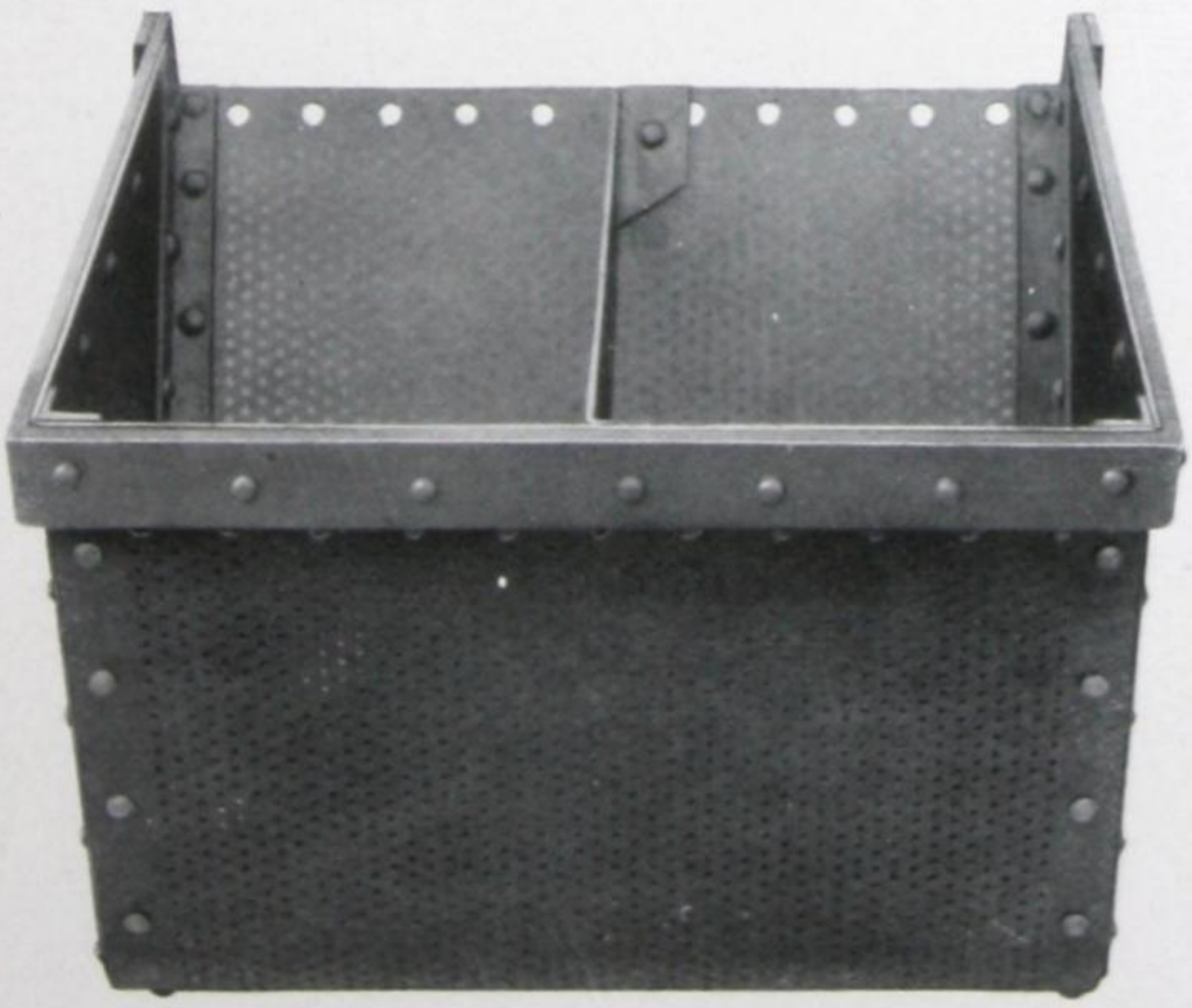




Built to meet requirements. Made complete in our plant

PERFORATED ELEVATOR BUCKETS





Built to meet requirements. Made complete in our plant

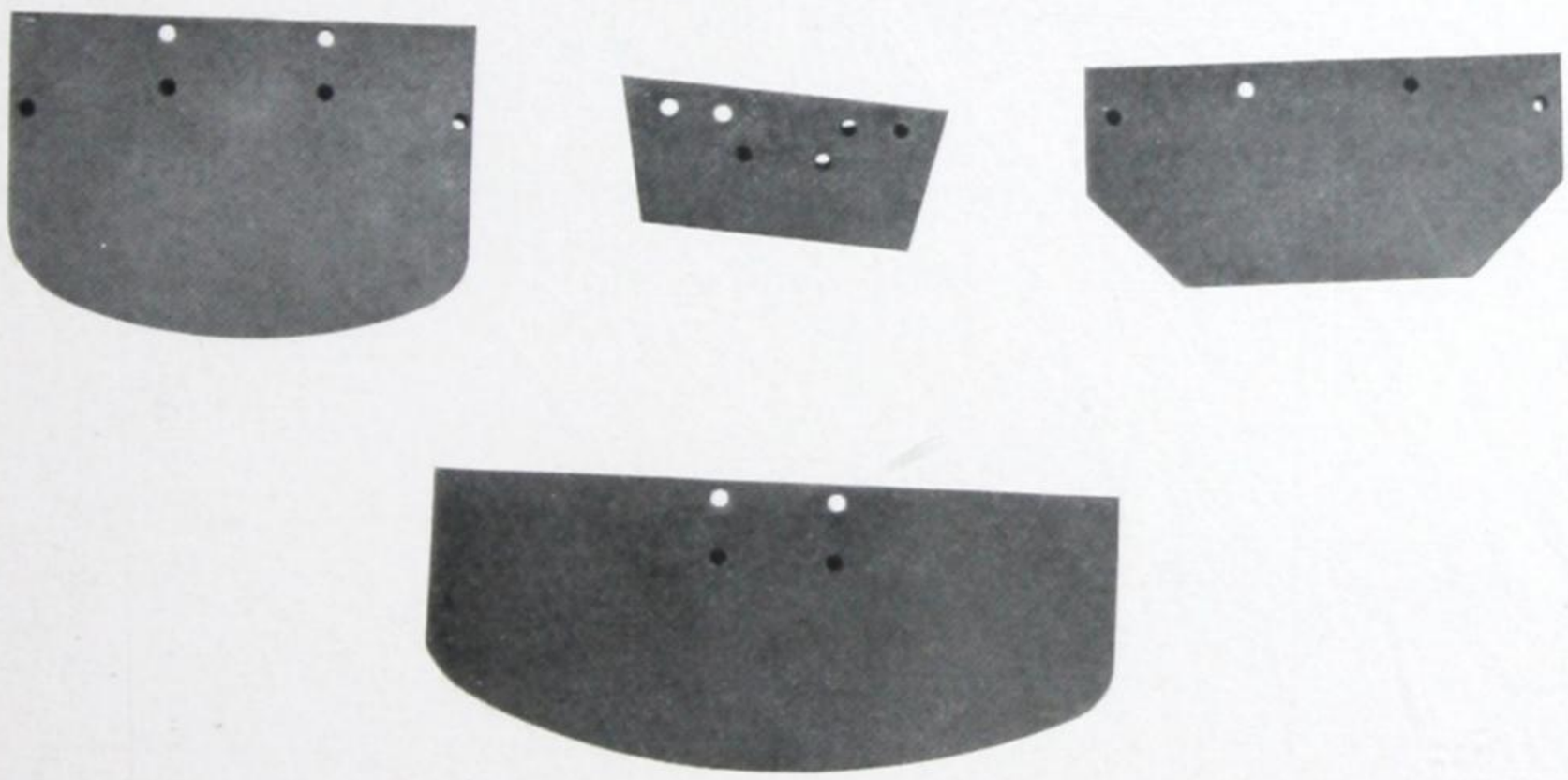
DUC BUCKETS





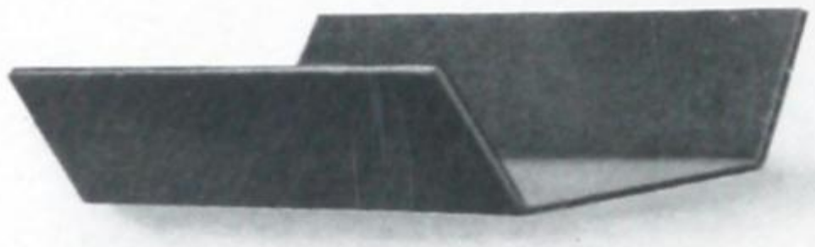
Duc Buckets are made up in any size desired. Copper Duc Buckets furnished for use in sugar refineries

FLIGHTS



FLIGHTS are furnished cut to any desired shape, plain or flanged, with reinforcement angles or with wearing shoes.

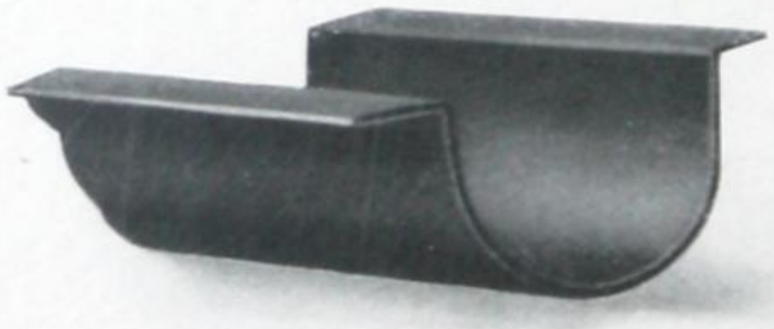
CONVEYOR TROUGH



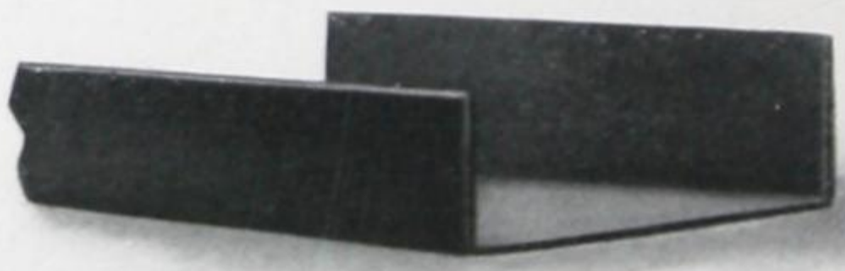
Style 1



Style 4



Style 2



Style 5



Style 3



Style 6

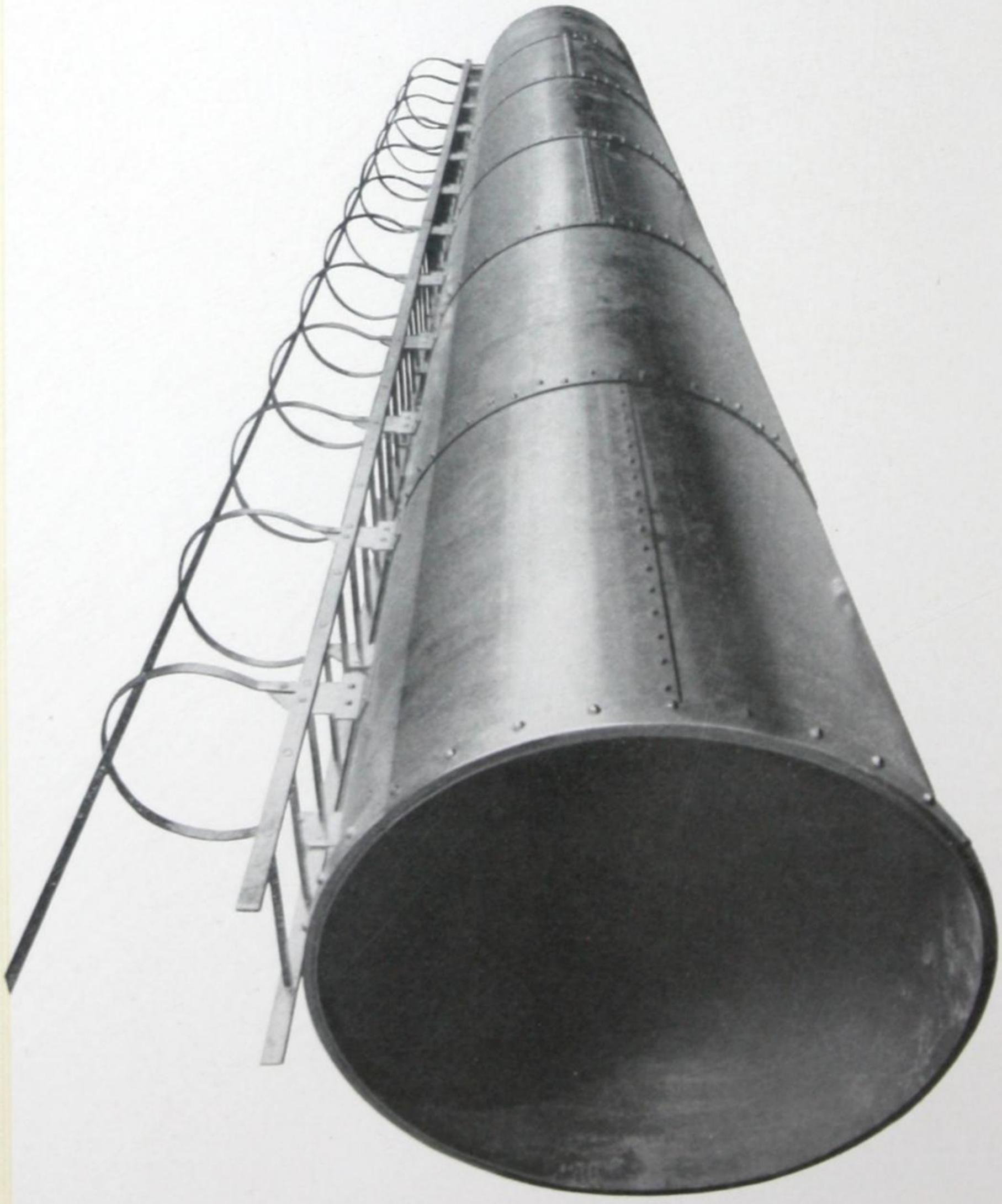
CONVEYOR TROUGH, not carried in stock, but made up to suit requirements. We show only a few of the styles we can furnish, but have numbers of other forms. Send sketch with all dimensions with your order or inquiry. Table on page 127 may be of assistance to you.

GENERAL SHEET AND STRUCTURAL STEEL DEPARTMENT

IN THIS DEPARTMENT we have special facilities for the manufacture of sheet steel work of every description, including Tanks, Hoppers, Coal and Ash Bunkers, Stacks, Smoke Flues, Elevator and Conveyor Casings, Screen Cases and General Sheet and Plate Pipe Construction. We are also prepared to fabricate Light Structural Steel Work, Chutes and Loading Booms for Tipples, Steel Auto Truck Bodies, Mine Cars, Mine Car Parts, Coal and Ash Conveying Lines and Heavy Buckets for the handling of ore or other materials.

We will be pleased to receive your orders or quote prices upon receipt of specifications with blueprints or sketches.

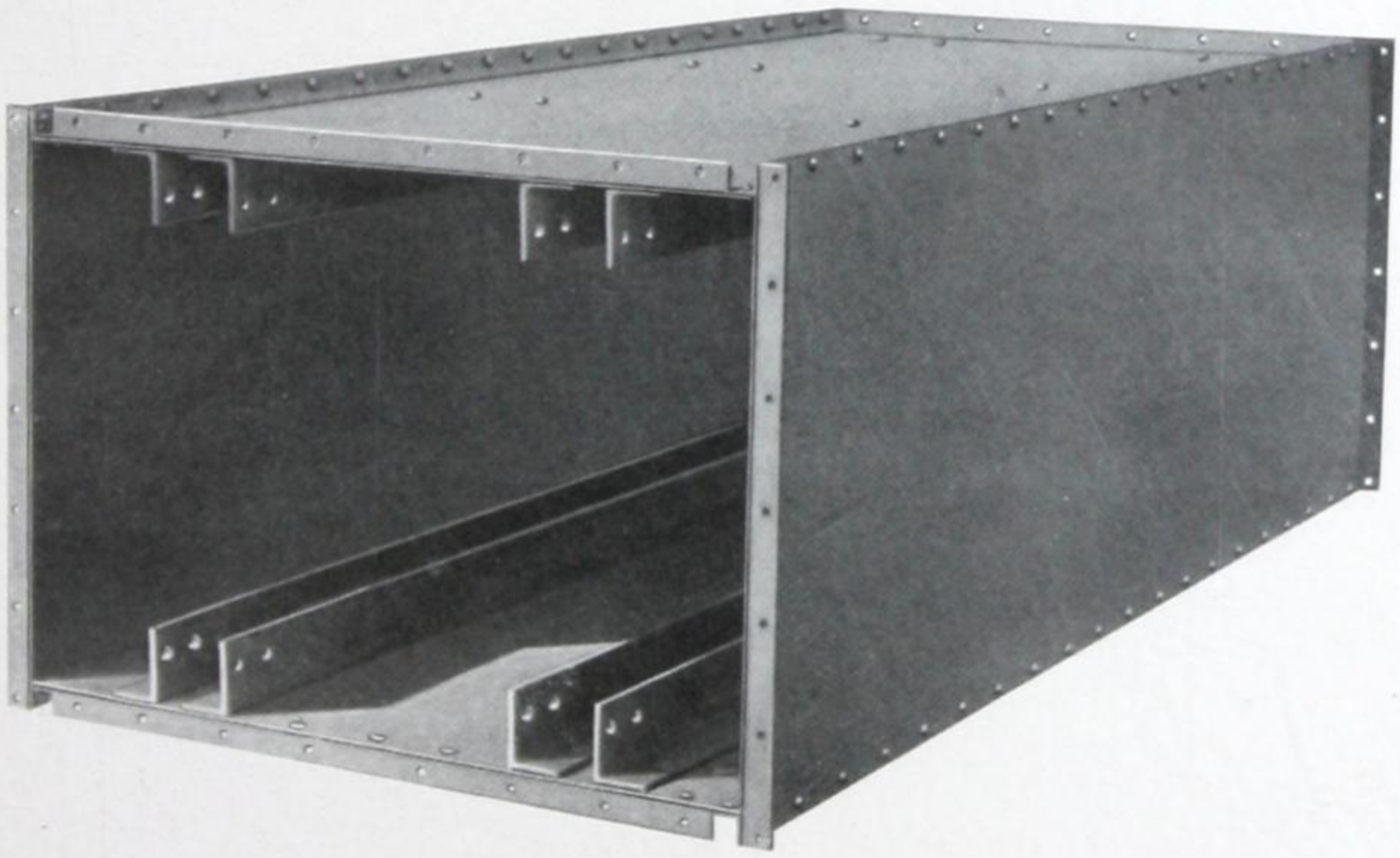
STACKS

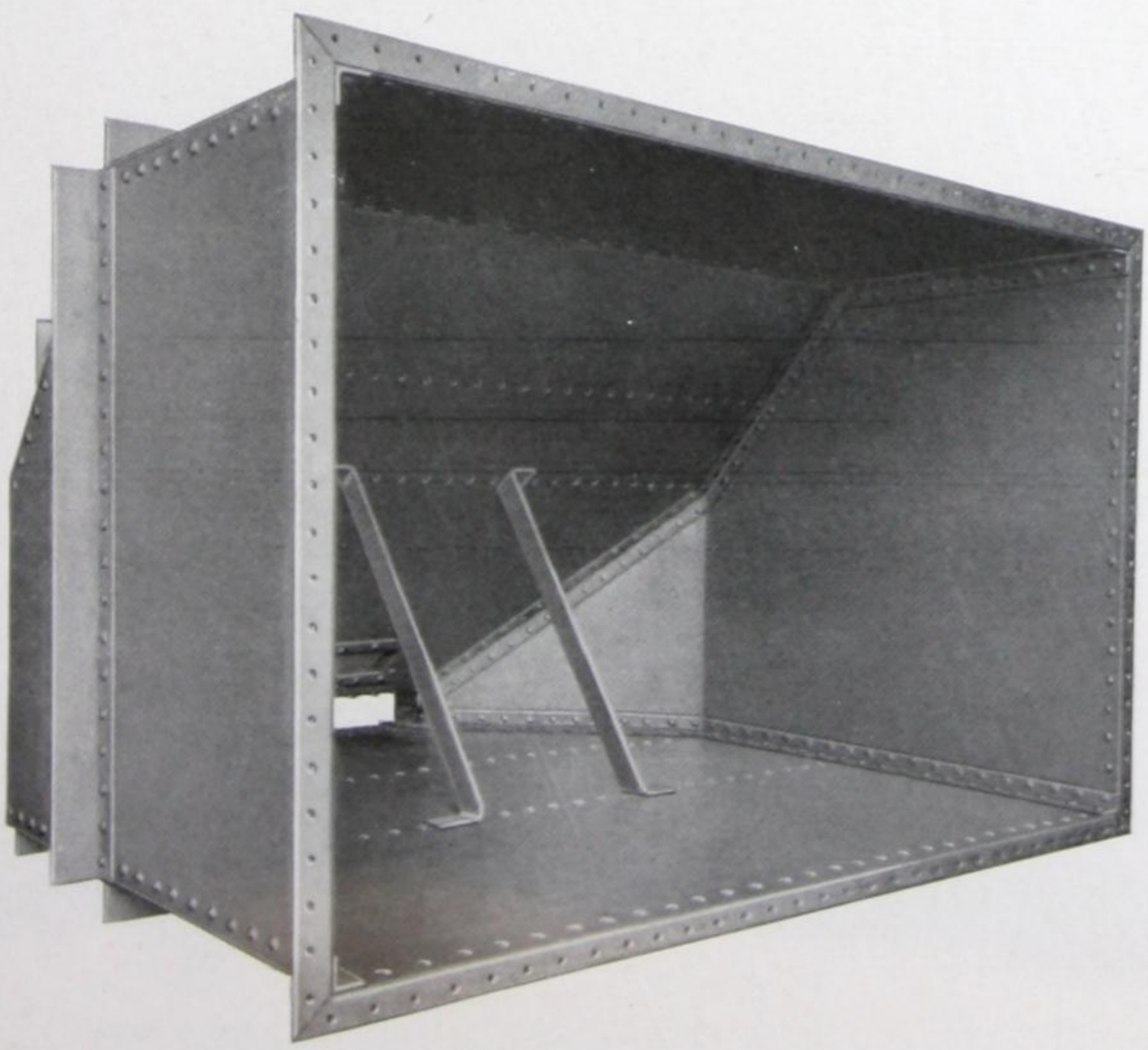


A SECTION of a 100-foot smoke stack, with safety ladder. Painted with a non-corrosive paint to withstand heat and gases. We are equipped to furnish stacks of any desired length and diameter.

HOPPERS AND ELEVATOR CASINGS

ARE BUILT IN ANY DESIRED SIZE





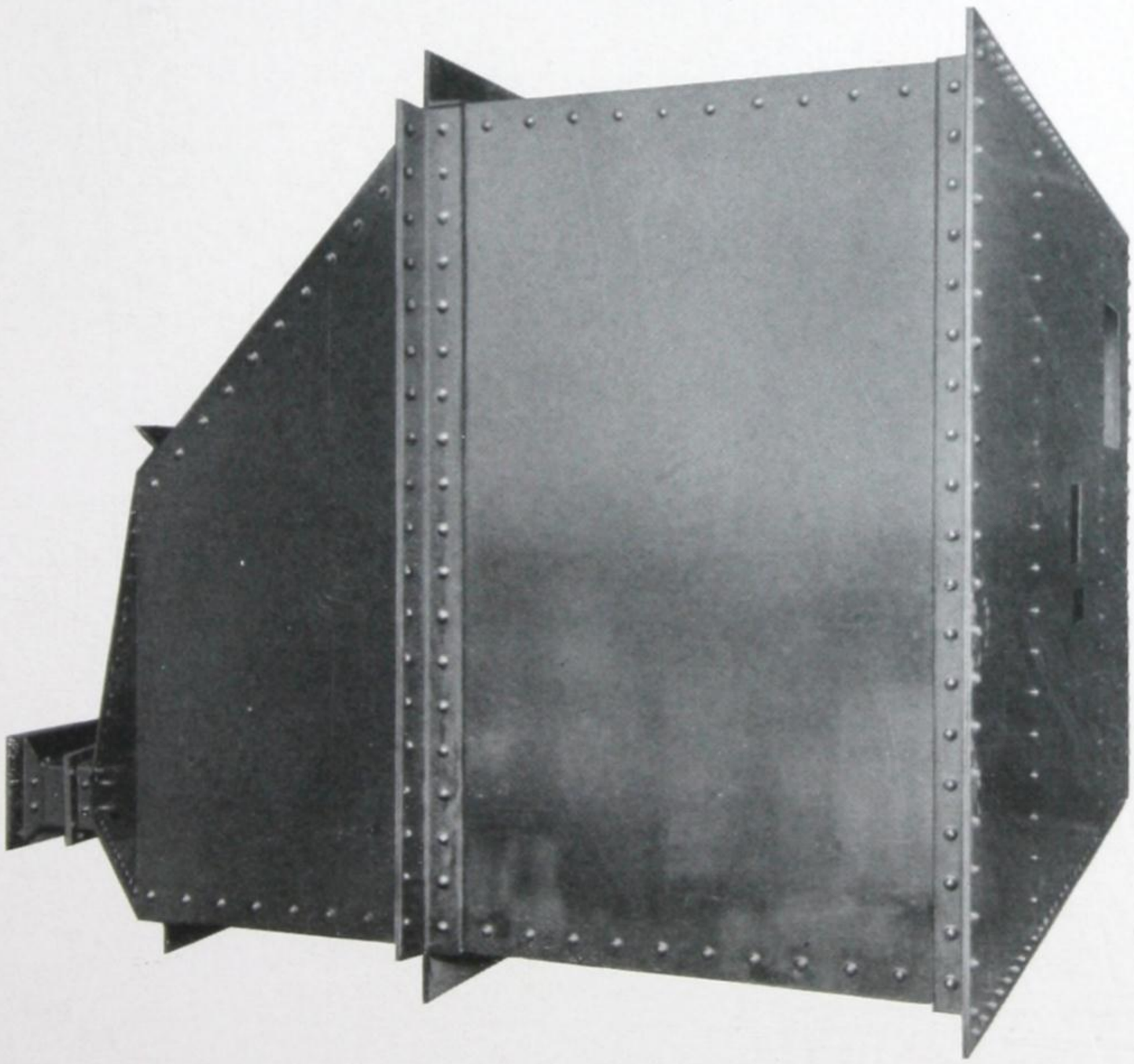
Interior view of Hopper shown on page 107



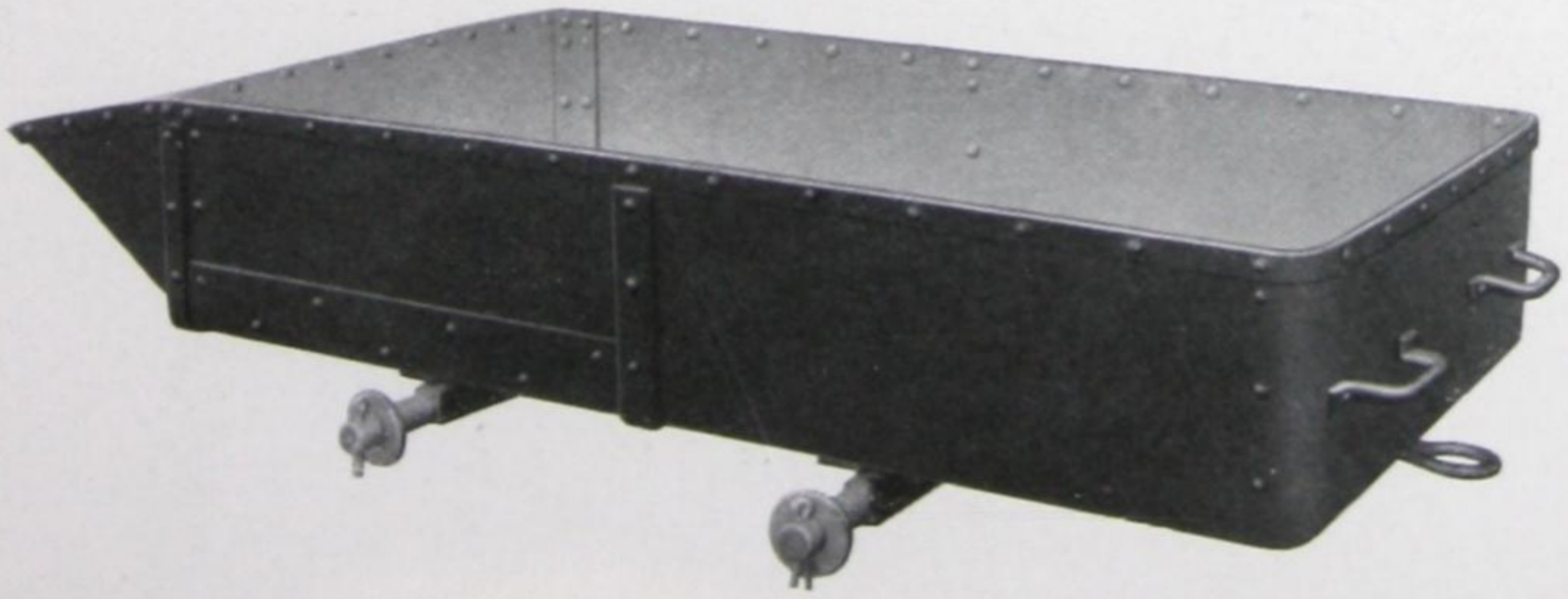
Conveyor line for handling lump coal from mine to crushers in breaker. Trough is riveted to structural work. Sides and top covered with asbestos roofing and siding when assembled

COAL OR ASH HOPPERS

ARE BUILT IN ANY DESIRED SIZE



MINE BUGGY



A TYPE OF MINE CAR BUGGY used in low veins in the anthracite region. We build these cars as desired, furnishing wheels if wanted.

BOX CAR LOADING CHUTE

FOR COAL, ORE, GRAIN, ETC.

MADE FROM MANGANESE BRONZE, this car loading chute is not only rustless, but with minimum weight, possesses maximum durability.

Attached to the chute of a breaker or elevator, the apparatus, the flat ends of which are made to telescope, can be extended from the point A, in Fig. 2, to the extreme ends of the largest box car, ensuring even distribution of the material being loaded.

In Fig. 1, the breeching is shown, also where the loading chute is attached to the breeching and the breeching to the upright angle irons, by which the loading chute is secured to the breaker or elevator.

Fig. 2 shows the loading chute complete, ends extended.

Fig. 3 gives what may be called a sectional view, with one of the chutes detached, showing how the different parts are constructed, so that each can be handled separately, with little effort. Either of the curved chutes or the breeching, can easily be lifted and placed in position by one man. Chains, shown half way down the chute, in Fig. 2, are for holding the telescope sections in any desired position or for attaching the chute to hangers in the car, so that the material being loaded may be dropped where desired.

The loading chute is simple and of durable construction and in the trimming and proper loading of cars will prove economical and practical as a labor saver.

This chute can also be furnished of steel.

BOX CAR LOADING CHUTE

FOR COAL, ORE, GRAIN, ETC.



Figure 1

A

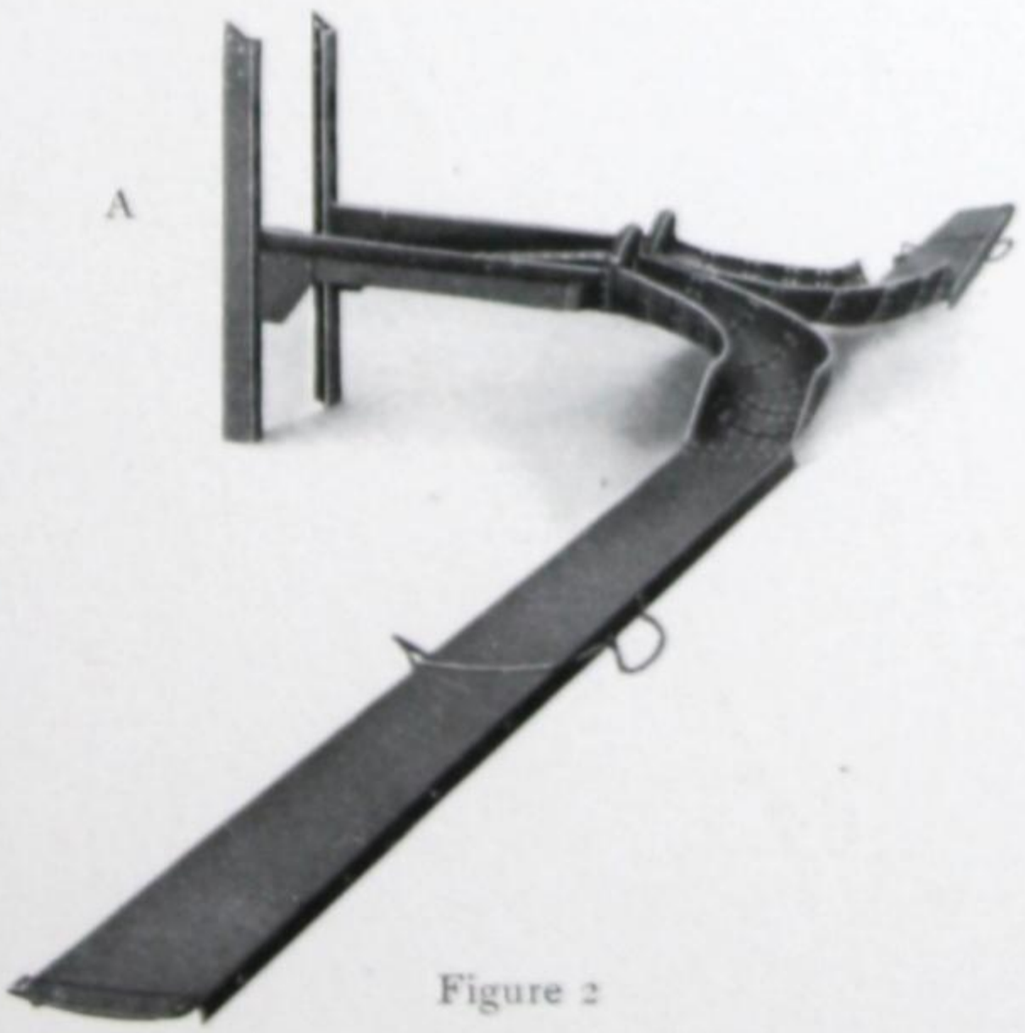


Figure 2

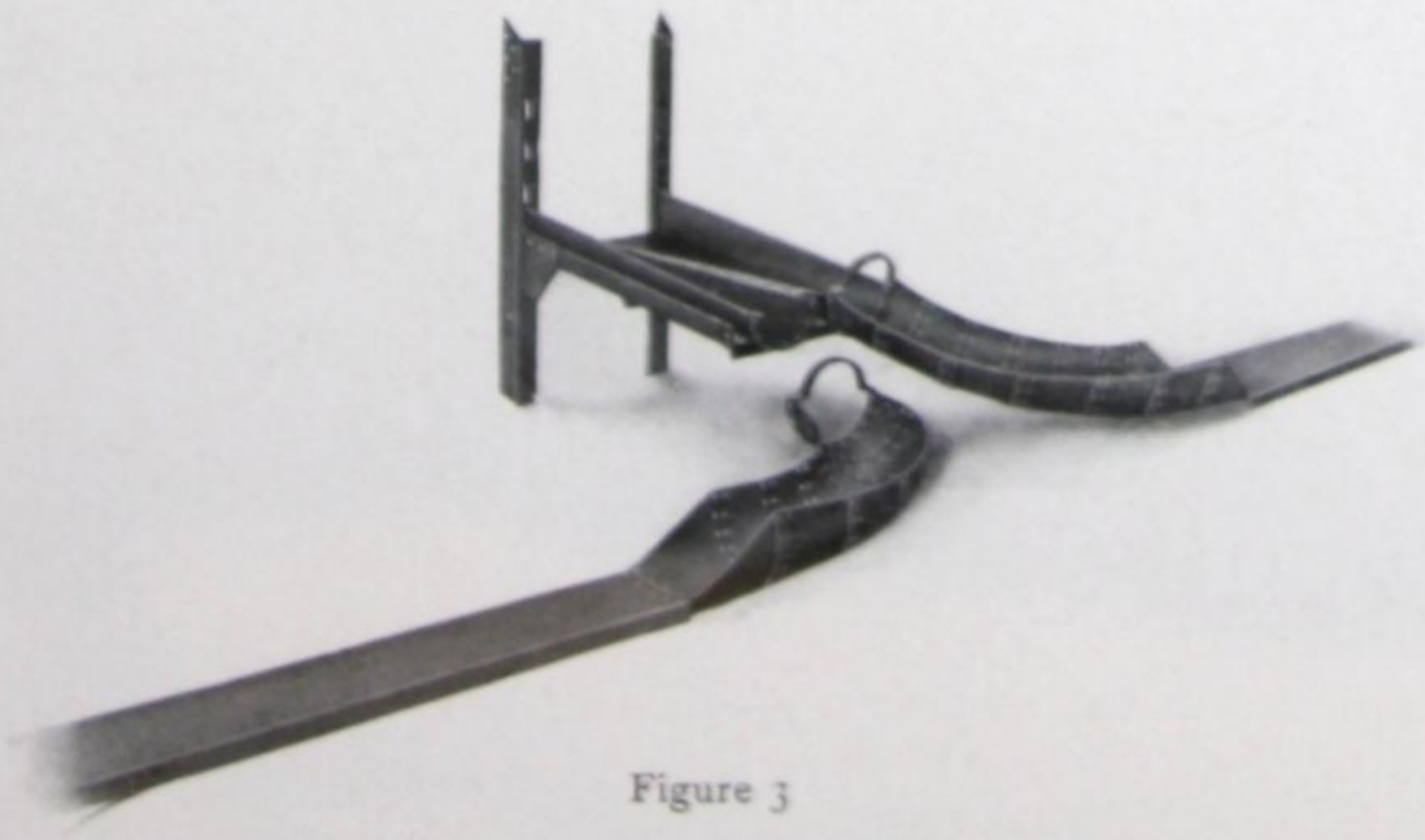
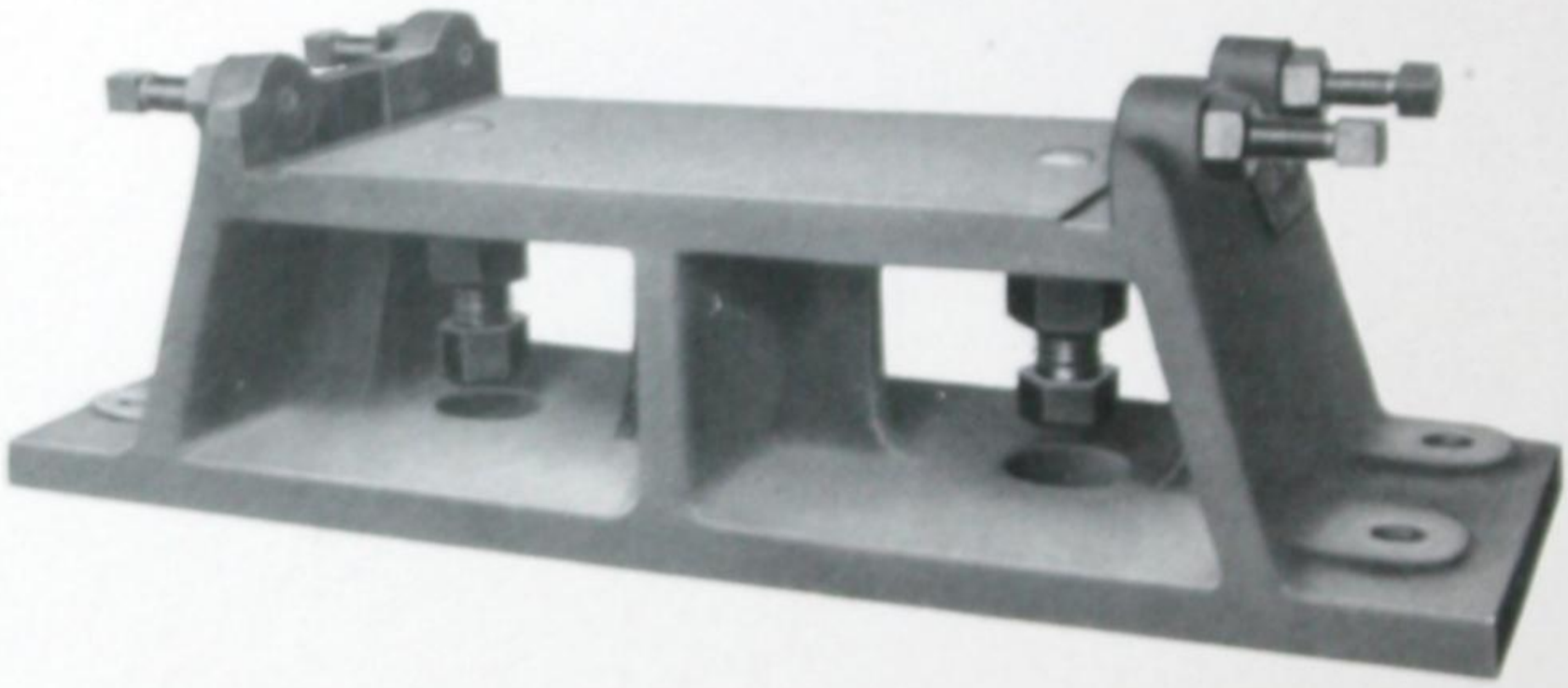


Figure 3

MACHINE WORK



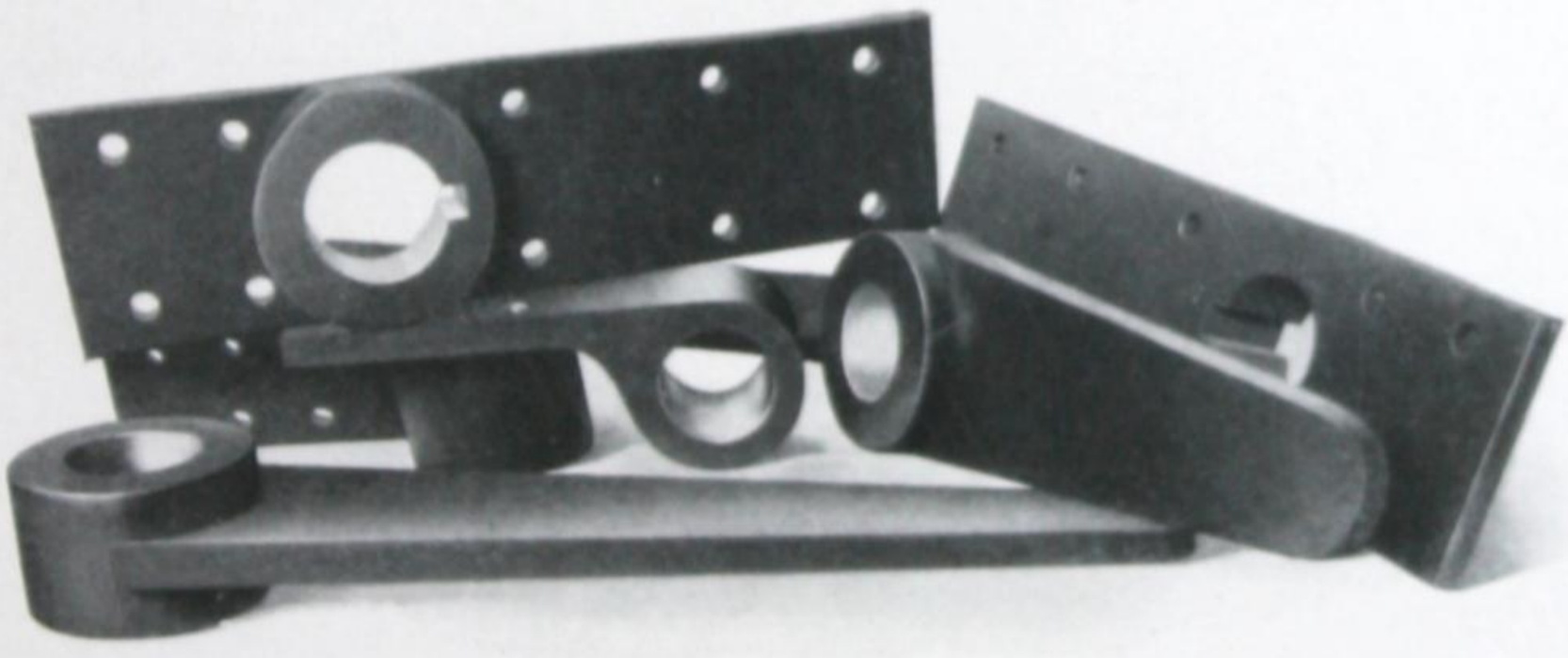
Cast-iron Base Plate



Cast-iron Flange for riveted pipe

ON THIS PAGE AND THE FOLLOWING ONE, we illustrate some machine work. In this department of our plant we are in a position to do work of this character in a satisfactory manner.

MACHINE WORK



Machined Forgings for lift bridge in anthracite colliery



Cast-iron Eccentrics and Strap for shaker in anthracite colliery

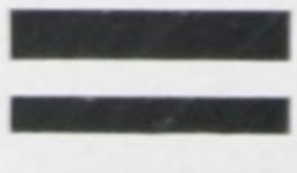
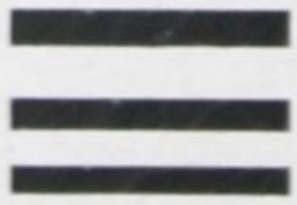
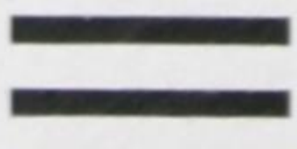
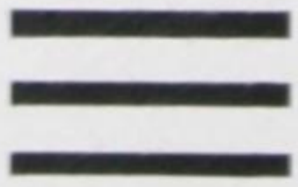
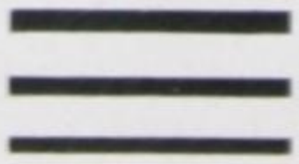
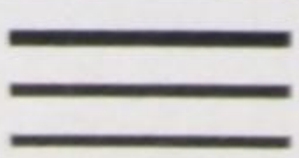
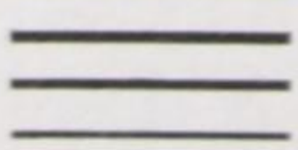
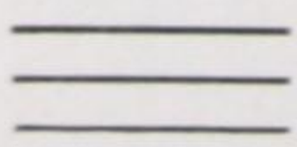
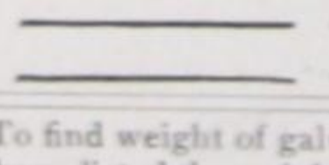
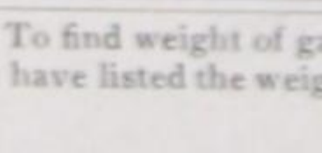
STANDARD MESHES AND GAUGES FOR ANTHRACITE COAL

THE FOLLOWING PERFORATIONS have been generally adopted as the standard meshes for shaking screens producing the sizes equivalent to those produced by revolving screens. These meshes and gauges are given merely to serve as a guide in ordering, as individual cases often require special sizes and thicknesses.

Size of Coal	Round Perforations		Square Perforations	
	Diameter of Hole Inches	Gauge of Plate Inches	Size of Hole Inches	Gauge of Plate Inches
Steamboat	5 3/8	1/2	5	1/2
Lump	4 1/2	3/8	4	3/8
Broken	3 1/4	3/8	2 3/4	3/8
Egg	2 5/16	5/16	2	5/16
Stove	1 5/8	1/4	1 3/8	1/4
Chestnut	15/16	1/4	3/4	No. 6
Pea	5/8	No. 6	1/2	No. 8
Buckwheat	11/32	No. 10	1/4	No. 10
Rice	3/16	No. 10		
Boiler	3/32	No. 14		

TABLES OF WEIGHTS
MEASURING DECIMAL EQUIVALENTS, ETC.
MESHES AND GAUGES FOR
COAL SCREENS

UNITED STATES STANDARD GAUGE
FOR SHEET AND PLATE STEEL
THIS IS THE STANDARD GAUGE USED BY PLATE AND SHEET MILLS

No.	Sheet Metal		
00		.34375	11/32
0		.3125	5/16
1		.28125	9/32
2		.265625	17/64
3		.25	1/4
4		.234375	15/64
5		.21875	7/32
6		.203125	13/64
7		.1875	3/16
8		.171875	11/64
9		.15625	5/32
10		.140625	9/64
11		.125	1/8
12		.109375	7/64
13		.09375	3/32
14		078125	5/64
15		.0703125	
16		.0625	1/16
17		.05625	
18		.05	1/20
19		04375	
20		.0375	
21		.034375	
22		.03125	1/32
23		.028125	
24		.025	
25		.021875	
26		.01875	
27		.0171875	

Number of Gauge	Thickness in Fractions of an Inch	Thickness in Decimal Parts of an Inch	Weight per Square Foot in Pounds
0000000	1/2	.5	20.480
000000	15/32	.46875	19.125
00000	7/16	.4375	17.85
0000	13/32	.40625	16.575
000	3/8	.375	15.300
00	11/32	.34375	14.025
0	5/16	.3125	12.75
1	9/32	.28125	11.475
2	17/64	.265625	10.837
3	1/4	.25	10.200
4	15/64	.234375	9.562
5	7/32	.21875	8.925
6	13/64	.203125	8.287
7	3/16	.1875	7.65
8	11/64	.171875	6.875
9	5/32	.15625	6.25
10	9/64	.140625	5.625
11	1/8	.125	5.
12	7/64	.109375	4.375
13	3/32	.09375	3.75
14	5/64	.078125	3.125
15	9/128	.0703125	2.8125
16	1/16	.0625	2.5
17	9/160	.05625	2.25
18	1/20	.05	2.
19	7/160	.04375	1.75
20	3/80	.0375	1.50
21	11/320	.034375	1.375
22	1/32	.03125	1.25
23	9/320	.028125	1.125
24	1/40	.025	1.
25	7/320	.021875	.875
26	3/160	.01875	.75
27	11/640	.0171875	.6875
28	1/64	.015625	.625
29	9/640	.0140625	.5625
30	1/80	.0125	.5
31	7/640	.0109375	.4375
32	13/1280	.01015625	.40625
33	8/320	.009375	.375
34	11/1280	.00859375	.34375
35	5/640	.0078125	.3125
36	9/1280	.00703125	.28125
37	17/2560	.006640625	.26562
38	1/160	.00625	.25

To find weight of galvanized steel add .156 to the above weights. Furnished in No. 10 and lighter
We have listed the weight of iron in No. 8 and lighter, as this is followed by most mills in rolling steel sheets

WEIGHT OF SHEET METALS

BIRMINGHAM (STUBS) WIRE GAUGE

SELDOM USED FOR IRON AND STEEL

Number of Gauge	Thickness in Decimals of an Inch	Weight per Square Foot, in Pounds				
		Iron	Steel	Brass	Manganese Bronze	Copper
0000	.454	18.16	18.52	20.07	19.7436	20.9857
000	.425	17.00	17.34	18.788	18.4824	19.6452
00	.380	15.20	15.50	16.799	16.5254	17.5651
0	.340	13.60	13.87	15.03	14.7859	15.7162
1	.300	12.00	12.24	13.262	13.0464	13.8672
2	.284	11.36	11.58	12.555	12.3506	13.1276
3	.259	10.36	10.56	11.45	11.2634	11.9720
4	.238	9.52	9.71	10.521	10.3501	11.0013
5	.220	8.80	8.97	9.726	9.5674	10.1693
6	.203	8.12	8.28	8.974	8.8281	9.3835
7	.180	7.20	7.34	7.957	7.8278	8.3203
8	.165	6.60	6.73	7.294	7.1755	7.6270
9	.148	5.92	6.03	6.543	6.4362	6.8412
10	.134	5.36	5.46	5.924	5.8274	6.1940
11	.120	4.80	4.896	5.306	5.2186	5.5469
12	.109	4.36	4.447	4.819	4.7402	5.0384
13	.095	3.80	3.876	4.20	4.1314	4.3913
14	.083	3.32	3.386	3.669	3.6095	3.8366
15	.072	2.88	2.937	3.183	3.1311	3.3281
16	.065	2.60	2.652	2.873	2.8267	3.0046
17	.058	2.32	2.366	2.564	2.5223	2.6810
18	.049	1.96	1.999	2.166	2.1309	2.2650
19	.042	1.68	1.713	1.856	1.8265	1.9414
20	.035	1.40	1.428	1.547	1.5220	1.6178
21	.032	1.28	1.305	1.415	1.3916	1.4792
22	.028	1.12	1.142	1.238	1.2177	1.2943
23	.025	1.00	1.020	1.105	1.0872	1.1556
24	.022	.883	.897	.973	.9567	1.0169
25	.020	.803	.816	.884	.8698	.9245
26	.018	.722	.734	.796	.7828	.8320
27	.016	.640	.652	.707	.6958	.7396
28	.014	.560	.571	.619	.6088	.6471
29	.013	.520	.530	.575	.5653	.6009
30	.012	.480	.489	.530	.5219	.5547

WEIGHT OF SHEET IRON, STEEL, COPPER, MANGANESE BRONZE AND BRASS

BROWN & SHARPE'S (AMERICAN) GAUGE

SELDOM USED FOR IRON AND STEEL

Number of Gauge	Thickness in Decimals of an Inch	Weight per Square Foot, in Pounds				
		Iron	Steel	Brass	Manganese Bronze	Copper
0000	.4600	18.40	18.76	20.37	20.0045	21.2630
000	.4096	16.38	16.71	18.14	17.8144	18.9352
00	.3648	14.59	14.88	16.15	15.8644	16.8625
0	.3249	12.99	13.25	14.39	14.1275	15.0163
1	.2893	11.57	11.80	12.81	12.5811	13.3726
2	.2576	10.30	10.51	11.41	11.2038	11.9087
3	.2294	9.17	9.36	10.16	9.9770	10.6047
4	.2043	8.17	8.33	9.047	8.8850	9.4440
5	.1819	7.27	7.42	8.057	7.9122	8.4100
6	.1620	6.48	6.61	7.175	7.0459	7.4892
7	.1443	5.77	5 88	6.389	6.2744	6.6692
8	.1285	5.14	5.24	5.690	5.5878	5.9393
9	.1144	4.57	4.66	5.067	4.9763	5.2894
10	.1019	4.07	4.15	4.512	4.4310	4.7098
11	.0907	3.63	3.70	4.018	3.9461	4.1944
12	.0808	3.23	3.29	3.578	3.5143	3.7354
13	.0720	2.88	2.93	3.187	3.1294	3.3263
14	.0641	2.56	2.61	2.838	2.7867	2.9620
15	.0571	2.28	2.32	2.527	2.4819	2.6380
16	.0508	2.03	2.07	2.251	2.2101	2.3491
17	.0453	1.81	1.84	2.004	1.9683	2.0921
18	.0403	1.61	1.64	1.785	1.7526	1.8628
19	.0359	1.44	1.46	1.589	1.5608	1.6590
20	.0320	1.28	1.30	1.415	1.3899	1.4773
21	.0285	1.14	1.16	1.260	1.2377	1.3155
22	.0253	1.02	1.03	1.122	1.1024	1.1718
23	.0226	.903	.970	.9995	.9815	1.0433
24	.0201	.804	.820	.8901	.8741	.9291
25	.0179	.716	.730	.7927	.7784	.8274
26	.0159	.638	.650	.7059	.6932	.7368
27	.0142	.568	.579	.6286	.6171	.6559
28	.0126	.505	.515	.5598	.5497	.5843
29	.0113	.450	.459	.4985	.4897	.5205
30	.0100	.401	.409	.4439	.4357	.4632
31	.0089	.357	.364	.3953	.3883	.4128
32	.0080	.318	.324	.3521	.3457	.3675
33	.0071	.283	.288	.3135	.3079	.3273
34	.0063	.252	.257	.2792	.2740	.2912
35	.0056	.225	.229	.2486	.2440	.2593

STANDARD GAUGES

THICKNESS IN DECIMALS OF AN INCH

Number of Gauge	United States Standard	American or Brown & Sharpe	Birmingham or Stubs	Washburn & Moen Mfg. Co., Worcester, Mass.	Trenton Iron Co. Trenton, N. J.	Old English from Manufacturers' List	British Imperial or English Legal Standard Wire Gauge
0000000	.500	. . .	. .	. .	. . .	. . .	.500
000000	.46875	. . .	. .	.4600	. . .	. . .	.464
00000	.4375	. . .	. .	.4300	.450	. . .	.432
0000	.40625	.46	.454	.3938	.400	. . .	.400
000	.375	.40964	.425	.3625	.360	. . .	.372
00	.34375	.36479	.380	.3310	.330	. . .	.348
0	.3125	.32486	.340	.3065	.305	. . .	.324
1	.28125	.2893	.300	.2830	.285	. . .	.300
2	.265625	.25763	.284	.2625	.265	. . .	.276
3	.25	.22942	.259	.2437	.245	. . .	.252
4	.234375	.20431	.238	.2253	.225	. . .	.232
5	.21875	.18194	.220	.2070	.205	. . .	.212
6	.203125	.16202	.203	.1920	.190	. . .	.192
7	.1875	.14428	.180	.1770	.175	. . .	.176
8	.171875	.12849	.165	.1620	.160	. . .	.160
9	.15625	.11443	.148	.1483	.145	. . .	.144
10	.140625	.10189	.134	.1350	.130	. . .	.128
11	.125	.090742	.120	.1205	.1175	. . .	.116
12	.109375	.080808	.109	.1055	.105	. . .	.104
13	.09375	.071962	.095	.0915	.0925	. . .	.092
14	.078125	.064084	.083	.0800	.0806	.083	.080
15	.0703125	.057068	.072	.0720	.070	.072	.072
16	.0625	.050821	.065	.0625	.061	.065	.064
17	.05625	.045257	.058	.0540	.0525	.058	.056
18	.05	.040303	.049	.0475	.045	.049	.048
19	.04375	.035890	.042	.0410	.040	.045	.040
20	.0375	.031961	.035	.0348	.035	.035	.036
21	.034375	.028462	.032	.03175	.031	.0315	.032
22	.03125	.025346	.028	.0286	.028	.0295	.028
23	.028125	.022572	.025	.0258	.025	.027	024
24	.025	.020101	.022	.0230	.0225	.025	.022
25	.021875	.017900	.020	.0204	.020	.023	.020
26	.01875	.015941	.018	.0181	.018	.0205	.018
27	.0171875	.014195	.016	.0173	.017	.01875	.0164
28	.015625	.012641	.014	.0162	.016	.0165	.0148
29	.0140625	.011257	.013	.0150	.015	.0155	.0136
30	.0125	.010025	.012	.0140	.014	.01375	.0124
31	.0109375	.008928	.010	.0132	.013	.01225	.0116
32	.01015625	.007950	.009	.0128	.012	.01125	.0108
33	.009375	.007080	.008	.0118	.011	.01025	.0100
34	.00859375	.006305	.007	.0104	.010	.0095	.0092
35	.0078125	.005615	.005	.0095	.0095	.009	.0084
36	.00703125	.005000	.004	.0090	.009	.0075	.0076
37	.00664062	.004453	. .	.0085	.0085	.0065	.0068
38	.00625	.003965	. .	.0080	.008	.00575	.0060
39		.003531	. .	.0075	.0075	.005	.0052
40		.003144	. .	.0070	.007	.0045	.0048

FRACTIONS OF ONE INCH IN DECIMAL EQUIVALENTS

1/64	.015625	33/64	.515625
1/32	.03125	17/32	.53125
3/64	.046875	35/64	.546875
1/16	.0625	9/16	.5625
5/64	.078125	37/64	.578125
3/32	.09375	19/32	.59375
7/64	.109375	39/64	.609375
1/8	.125	5/8	.625
9/64	.140625	41/64	.640625
5/32	.15625	21/32	.65625
11/64	.171875	43/64	.671875
3/16	.1875	11/16	.6875
13/64	.203125	45/64	.703125
7/32	.21875	23/32	.71875
15/64	.234375	47/64	.734375
1/4	.25	3/4	.75
17/64	.265625	49/64	.765625
9/32	.28125	25/32	.78125
19/64	.296875	51/64	.796875
5/16	.3125	13/16	.8125
21/64	.328125	53/64	.828125
11/32	.34375	27/32	.84375
23/64	.359375	55/64	.859375
3/8	.375	7/8	.875
25/64	.390625	57/64	.890625
13/32	.40625	29/32	.90625
27/64	.421875	59/64	.921875
7/16	.4375	15/16	.9375
29/64	.453125	61/64	.953125
15/32	.46875	31/32	.96875
31/64	.484375	63/64	.984375
1/2	.50	1	1.

CIRCUMFERENCES AND AREAS OF CIRCLES

FROM $\frac{1}{64}$ OF AN INCH TO 120 INCHES IN DIAMETER

Diameter	Circumference	Area
$\frac{1}{64}$	.04909	.00019
$\frac{1}{32}$	.09818	.00077
$\frac{3}{64}$	.14726	.00173
$\frac{1}{16}$	.19635	.00307
$\frac{3}{32}$	.29452	.00690
$\frac{1}{8}$	.39270	.01227
$\frac{5}{32}$	.49087	.01917
$\frac{3}{16}$	.58905	.02761
$\frac{7}{32}$	.68722	.03758
$\frac{1}{4}$	.78540	.04909
$\frac{9}{32}$	.88357	.06213
$\frac{5}{16}$	.98175	.07670
$\frac{11}{32}$	1.0799	.09281
$\frac{3}{8}$	1.1781	.11045
$\frac{13}{32}$	1.2763	.12962
$\frac{7}{16}$	1.3744	.15033
$\frac{15}{32}$	1.4726	.17257
$\frac{1}{2}$	1.5708	.19635
$\frac{17}{32}$	1.6690	.22166
$\frac{9}{16}$	1.7671	.24850
$\frac{19}{32}$	1.8653	.27688
$\frac{5}{8}$	1.9635	.30680
$\frac{21}{32}$	2.0617	.33824
$\frac{11}{16}$	2.1598	.37122
$\frac{23}{32}$	2.2580	.40574
$\frac{3}{4}$	2.3562	.44179
$\frac{25}{32}$	2.4544	.47937
$\frac{13}{16}$	2.5525	.51849
$\frac{27}{32}$	2.6507	.55914
$\frac{7}{8}$	2.7489	.60132
$\frac{29}{32}$	2.8471	.64504
$\frac{15}{16}$	2.9452	.69029
$\frac{31}{32}$	3.0434	.73708

Example showing use of this table for finding the circumference of a circle $27\frac{51}{64}$ inches in diameter. From table take:

Circumference of 27 inches	=	84.823
Circumference of $\frac{25}{32}$ inch	=	2.4544
Circumference of $\frac{1}{64}$ inch	=	.04909
Total = $27\frac{51}{64}$ inches	=	87.32649

Explanation: Take nearest inch, then the nearest fraction listed which in this case is $\frac{25}{32}$ inch. Then add to the $\frac{25}{32}$ inch the $\frac{1}{64}$ inch which would bring the total up to the circumference required of $27\frac{51}{64}$ inches.

This rule does not apply to area.

CIRCUMFERENCE AND AREA OF CIRCLES

FROM 1 INCH TO 120 INCHES DIAMETER

(Continued from page 119)

Diameter	Circumference	Area	Diameter	Circumference	Area
1	3.1416	.7854	61	191.637	2922.47
2	6.2832	3.1416	62	194.779	3019.07
3	9.4248	7.0686	63	197.920	3117.25
4	12.5664	12.5664	64	201.062	3216.99
5	15.7080	19.635	65	204.204	3318.31
6	18.850	28.274	66	207.345	3421.19
7	21.991	38.485	67	210.487	3525.65
8	25.133	50.266	68	213.628	3631.68
9	28.274	63.617	69	216.770	3739.28
10	31.416	78.540	70	219.911	3848.25
11	34.558	95.033	71	223.053	3959.19
12	37.699	113.10	72	226.195	4071.50
13	40.841	132.73	73	229.336	4185.39
14	43.982	153.94	74	232.478	4300.84
15	47.124	176.71	75	235.619	4417.86
16	50.265	201.06	76	238.761	4536.46
17	53.407	226.98	77	241.903	4656.63
18	56.549	254.47	78	245.044	4778.36
19	59.690	283.53	79	248.186	4901.67
20	62.832	314.16	80	251.327	5026.55
21	65.973	346.36	81	254.469	5153.00
22	69.115	380.13	82	257.611	5281.02
23	72.257	415.48	83	260.752	5410.61
24	75.398	452.39	84	263.894	5541.77
25	78.540	490.87	85	267.035	5674.50
26	81.681	530.93	86	270.177	5808.80
27	84.823	572.56	87	273.319	5944.68
28	87.965	615.75	88	276.460	6082.12
29	91.106	660.52	89	279.602	6221.14
30	94.248	706.86	90	282.743	6361.73
31	97.389	754.77	91	285.885	6503.88
32	100.531	804.25	92	289.027	6647.61
33	103.673	855.30	93	292.168	6792.91
34	106.814	907.92	94	295.310	6939.78
35	109.956	962.11	95	298 451	7088.22
36	113.097	1017.88	96	301.593	7238.23
37	116.239	1075.21	97	304.734	7389.81
38	119.381	1134.11	98	307.876	7542.96
39	122.522	1194.59	99	311.010	7697.69
40	125.664	1256.64	100	314.16	7853.98
41	128.805	1320.25	101	317.30	8011.85
42	131.947	1385.44	102	320.44	8171.28
43	135.088	1452.20	103	323.58	8332.29
44	138.230	1520.53	104	326.73	8494.87
45	141.372	1590.43	105	329.87	8659.01
46	144.513	1661.90	106	333.01	8824.73
47	147.655	1734.94	107	336.15	8992.02
48	150.796	1809.56	108	339.29	9160.88
49	153.938	1885.74	109	342.43	9331.32
50	157.080	1963.50	110	345.58	9503.32
51	160.221	2042.82	111	348.72	9676.89
52	163.363	2123.72	112	351.86	9852.03
53	166.504	2206.18	113	355.00	10028.75
54	169.646	2290.22	114	358.14	10207.03
55	172.788	2375.83	115	361.28	10386.89
56	175.929	2463.01	116	364.42	10568.32
57	179.071	2551.76	117	367.57	10751.32
58	182.212	2642.08	118	370.71	10935.88
59	185.354	2733.97	119	373.85	11122.02
60	188.496	2827.43	120	376.99	11309.73

COMPARATIVE TABLE OF UNITED STATES STANDARD AND METRIC MEASUREMENTS

UNITED STATES STANDARD TO METRIC

LINEAL

One Inch = 25.400 millimeters
One Foot = 0.3048 meter
One Mile = 1.6094 kilometers

SUPERFICIAL

One Square Inch = 645.2 square millimeters
One Square Foot = 0.09291 square meter
One Acre = 40.47 ares (1 are—100 square meters)
One Square Mile = 2.590 square kilometers

METRIC TO UNITED STATES STANDARD

LINEAL

One Millimeter = 0.0394 inch
One Meter = 3.2807 feet
One Kilometer = 0.6213 mile

SUPERFICIAL

One Square Millimeter = 0 00155 square inch
One Square Meter = 10.763 square feet
One Are (100 square meters) = 0.02471 acre
One Square Kilometer = 0.3861 square mile

METRIC CONVERSION TABLES

TABLES OF WEIGHTS

Number	Avoirdupois Pounds to Kilograms	Kilograms to Pounds Avoirdupois	Net Tons to Metric Tons	Metric Tons to Net Tons
1	0.4536	2.2046	0.9072	1.1023
2	0.9072	4.4092	1.8144	2.2046
3	1.3608	6.6138	2.7216	3.3069
4	1.8144	8.8184	3.6288	4.4092
5	2.2680	11.0230	4.5360	5.5115
6	2.7216	13.2276	5.4432	6.6138
7	3.1752	15.4322	6.3504	7.7161
8	3.6288	17.6368	7.2576	8.8184
9	4.0824	19.8414	8.1648	9.9207
10	4.5360	22.0460	9.0720	11.0230
11	4.9896	24.2506	9.9792	12.1253
12	5.4432	26.4552	10.8864	13.2276
13	5.8968	28.6598	11.7936	14.3299
14	6.3504	30.8644	12.7008	15.4322
15	6.8040	33.0690	13.6080	16.5345
16	7.2576	35.2736	14.5152	17.6368
17	7.7112	37.4782	15.4224	18.7391
18	8.1648	39.6828	16.3296	19.8414
19	8.6184	41.8874	17.2368	20.9437
20	9.0720	44.0920	18.1440	22.0460
21	9.5256	46.2966	19.0512	23.1483
22	9.9792	48.5012	19.9584	24.2506
23	10.4328	50.7058	20.8656	25.3529
24	10.8864	52.9104	21.7728	26.4552
25	11.3400	55.1150	22.6800	27.5575

1 Net Ton = 2000 pounds

1 Metric Ton = 1000 kilograms

METRIC CONVERSION TABLES

INCHES AND FEET CONVERTED INTO METRIC MEASURE

Inches	Meters	Feet	Meters	Feet	Meters	Feet	Meters
1/64	.000397	1	.3048	36	10.9727	71	21.6406
1/32	.000794	2	.6096	37	11.2775	72	21.9454
		3	.9144	38	11.5823	73	22.2502
1/16	.001588	4	1.2192	39	11.8871	74	22.5550
1/8	.003175	5	1.5240	40	12.1919	75	22.8598
3/16	.004763						
1/4	.006350	6	1.8288	41	12.4967	76	23.1646
		7	2.1336	42	12.8015	77	23.4694
5/16	.007938	8	2.4384	43	13.1063	78	23.7742
3/8	.009525	9	2.7432	44	13.4111	79	24.0790
7/16	.011113	10	3.0480	45	13.7159	80	24.3838
1/2	.012700						
		11	3.3528	46	14.0207	81	24.6886
9/16	.014287	12	3.6576	47	14.3255	82	24.9934
5/8	.015875	13	3.9624	48	14.6303	83	25.2982
11/16	.017462	14	4.2672	49	14.9351	84	25.6030
3/4	.019050	15	4.5720	50	15.2399	85	25.9078
13/16	.020637	16	4.8768	51	15.5447	86	26.2126
7/8	.022225	17	5.1816	52	15.8495	87	26.5174
15/16	.023812	18	5.4864	53	16.1543	88	26.8222
		19	5.7912	54	16.4591	89	27.1270
		20	6.0959	55	16.7638	90	27.4318
1	.0254	21	6.4007	56	17.0686	91	27.7366
2	.0508	22	6.7055	57	17.3734	92	28.0414
3	.0762	23	7.0103	58	17.6782	93	28.3461
4	.1016	24	7.3151	59	17.9830	94	28.6509
5	.1270	25	7.6199	60	18.2878	95	28.9557
6	.1524	26	7.9247	61	18.5926	96	29.2605
7	.1778	27	8.2295	62	18.8974	97	29.5653
8	.2032	28	8.5343	63	19.2022	98	29.8701
9	.2286	29	8.8391	64	19.5070	99	30.1749
10	.2540	30	9.1439	65	19.8118	100	30.4797
11	.2794	31	9.4487	66	20.1166		
		32	9.7535	67	20.4214		
		33	10.0583	68	20.7262		
		34	10.3631	69	21.0310		
		35	10.6679	70	21.3358		

mm.=millimeter; 10 mm.=1 cm. (centimeter); 100 cm.=1 m. (meter)

Example: 62 feet = 18.8974 = 18 m. 89 cm. 7.4 mm.

METRIC CONVERSION TABLES

METRIC MEASURE CONVERTED INTO INCHES

Centi-meters	Millimeters									
	0	1	2	3	4	5	6	7	8	9
0	.00	.04	.08	.12	.16	.20	.24	.28	.31	.35
1	.39	.43	.47	.51	55	.59	.63	.67	.71	.75
2	.79	.83	.87	.91	.94	.98	1.02	1.06	1.10	1.14
3	1.18	1.22	1.26	1.30	1.34	1.38	1.42	1.46	1.50	1.54
4	1.57	1.61	1.65	1.69	1.73	1.77	1.81	1.85	1.89	1.93
5	1.97	2.01	2.05	2.09	2.13	2.17	2.20	2.24	2.28	2.32
6	2.36	2.40	2.44	2.48	2.52	2.56	2.60	2.64	2.68	2.72
7	2.76	2.80	2.83	2.87	2.91	2.95	2.99	3 03	3.07	3.11
8	3.15	3.19	3.23	3.27	3.31	3.35	3.39	3.43	3 46	3.50
9	3.54	3.58	3.62	3.66	3.70	3.74	3.78	3.82	3.86	3.90
10	3.94	3.98	4.02	4.06	4.09	4.13	4.17	4.21	4.25	4.29
11	4.33	4.37	4.41	4.45	4.49	4.53	4.57	4.61	4.65	4.69
12	4 72	4.76	4.80	4.84	4.88	4.92	4.96	5.00	5 04	5.08
13	5.12	5.16	5.20	5.24	5.28	5 32	5.35	5.39	5.43	5.47
14	5.51	5.55	5.59	5.63	5 67	5.71	5.75	5.79	5.83	5.87
15	5 91	5 95	5.98	6.02	6.06	6.10	6.14	6.18	6.22	6 26
16	6 30	6.34	6.38	6.42	6.46	6.50	6 54	6.57	6.61	6.65
17	6.69	6.73	6.77	6.81	6.85	6.89	6.93	6.97	7.01	7.05
18	7.09	7.13	7.17	7.20	7.24	7.28	7.32	7.36	7.40	7.44
19	7.48	7.52	7.56	7.60	7.64	7.68	7.72	7.76	7.80	7.83
20	7.87	7 91	7.95	7.99	8.03	8.07	8.11	8.15	8.19	8.23
21	8.27	8.31	8.35	8.39	8.43	8.46	8 50	8.54	8.58	8.62
22	8 66	8.70	8.74	8.78	8.82	8.86	8.90	8.94	8.98	9.02
23	9.06	9.09	9.13	9.17	9.21	9.25	9.29	9.33	9.37	9 41
24	9.45	9.49	9.53	9.57	9.61	9.65	9.69	9.72	9.76	9.80
25	9.84	9.88	9.92	9 96	10.00	10 04	10.08	10.12	10.16	10.20
26	10.24	10.28	10.32	10.35	10.39	10.43	10.47	10.51	10.55	10.59
27	10.63	10.67	10.71	10.75	10.79	10.82	10.87	10.91	10.95	10.98
28	11.02	11.06	11.10	11.14	11.18	11.22	11.26	11.30	11.34	11.38
29	11.42	11.46	11.50	11.54	11.58	11.61	11.65	11.69	11.73	11.77
30	11.81	11.85	11.89	11.93	11.97	12.01	12.05	12.09	12.13	12.17
31	12.20	12.24	12.28	12.32	12.36	12.40	12.44	12.48	12.52	12.56
32	12.60	12.64	12.68	12.72	12.76	12.80	12.83	12.87	12.91	12.95
33	12.99	13.03	13.07	13.11	13.15	13.19	13.23	13.27	13.31	13.35
34	13.39	13.43	13.46	13.50	13.54	13.58	13.62	13.66	13.70	13.74
35	13.78	13.82	13.86	13.90	13.94	13.98	14.02	14.06	14.09	14.13
36	14.17	14.21	14.25	14.29	14.33	14.37	14.41	14.45	14.49	14.53
37	14.57	14.61	14.65	14.69	14.72	14.76	14.80	14.84	14.88	14.92
38	14.96	15.00	15 04	15.08	15.12	15.16	15.20	15.24	15.28	15.32
39	15.35	15.39	15.43	15.47	15.51	15.55	15.59	15.63	15.67	15.71
40	15 75	15.79	15.83	15.87	15.91	15.95	15.98	16.02	16.06	16.10
41	16.14	16.18	16.22	16.26	16.30	16.34	16.38	16.42	16.46	16.50
42	16.54	16.58	16.61	16.65	16.69	16.73	16.77	16.81	16.85	16.89
43	16.93	16.97	17.01	17.05	17.09	17.13	17.17	17.20	17.24	17.28
44	17.32	17.36	17.40	17.44	17.48	17.52	17.56	17.60	17.64	17.68
45	17.72	17.76	17.80	17.84	17.87	17.91	17.95	17.99	18.03	18.07
46	18.11	18.15	18.19	18.23	18.27	18.31	18.35	18.39	18.43	18.47
47	18.50	18.54	18.58	18.62	18.66	18.70	18.74	18.78	18.82	18.86
48	18.90	18.94	18.98	19.02	19.06	19.09	19.13	19.17	19.21	19.25
49	19.29	19.33	19.37	19.41	19.45	19.49	19.53	19.57	19.61	19.65
50	19.69	19.72	19.76	19.80	19.84	19.88	19.92	19.96	20.00	20.04

mm. =millimeter; 10 mm.= 1 cm. (centimeter); 100 cm.=1 m. (meter).

METRIC CONVERSION TABLES—Continued

METRIC MEASURE CONVERTED INTO INCHES

Centimeters	Millimeters									
	0	1	2	3	4	5	6	7	8	9
50	19.69	19.72	19.76	19.80	19.84	19.88	19.92	19.96	20.00	20.04
51	20.08	20.12	20.16	20.20	20.24	20.28	20.32	20.35	20.39	20.43
52	20.47	20.51	20.55	20.59	20.63	20.67	20.71	20.75	20.79	20.83
53	20.87	20.91	20.95	20.98	21.02	21.06	21.10	21.14	21.18	21.22
54	21.26	21.30	21.34	21.38	21.42	21.46	21.50	21.54	21.58	21.61
55	21.65	21.69	21.73	21.77	21.81	21.85	21.89	21.93	21.97	22.01
56	22.05	22.09	22.13	22.17	22.21	22.24	22.28	22.32	22.36	22.40
57	22.44	22.48	22.52	22.56	22.60	22.64	22.68	22.72	22.76	22.80
58	22.84	22.87	22.91	22.95	22.99	23.03	23.07	23.11	23.15	23.19
59	23.23	23.27	23.31	23.35	23.39	23.43	23.47	23.50	23.54	23.58
60	23.62	23.66	23.70	23.74	23.78	23.82	23.86	23.90	23.94	23.98
61	24.02	24.06	24.09	24.13	24.17	24.21	24.25	24.29	24.33	24.37
62	24.41	24.45	24.49	24.53	24.57	24.61	24.65	24.69	24.72	24.76
63	24.80	24.84	24.88	24.92	24.96	25.00	25.04	25.08	25.12	25.16
64	25.20	25.24	25.28	25.32	25.35	25.39	25.43	25.47	25.51	25.55
65	25.59	25.63	25.67	25.71	25.75	25.79	25.83	25.87	25.91	25.95
66	25.98	26.02	26.06	26.10	26.14	26.18	26.22	26.26	26.30	26.34
67	26.38	26.42	26.46	26.50	26.54	26.58	26.61	26.65	26.69	26.73
68	26.77	26.81	26.85	26.89	26.93	26.97	27.01	27.05	27.09	27.13
69	27.17	27.21	27.24	27.28	27.32	27.36	27.40	27.44	27.48	27.52
70	27.56	27.60	27.64	27.68	27.72	27.76	27.80	27.84	27.87	27.91
71	27.95	27.99	28.03	28.07	28.11	28.15	28.19	28.23	28.27	28.31
72	28.35	28.39	28.43	28.47	28.50	28.54	28.58	28.62	28.66	28.70
73	28.74	28.78	28.82	28.86	28.90	28.94	28.98	29.02	29.06	29.10
74	29.13	29.17	29.21	29.25	29.29	29.33	29.37	29.41	29.45	29.49
75	29.53	29.57	29.61	29.65	29.69	29.73	29.76	29.80	29.84	29.88
76	29.92	29.96	30.00	30.04	30.08	30.12	30.16	30.20	30.24	30.28
78	30.32	30.35	30.39	30.43	30.47	30.51	30.55	30.59	30.63	30.67
77	30.71	30.75	30.79	30.83	30.87	30.91	30.95	30.98	31.02	31.06
79	31.10	31.14	31.18	31.22	31.26	31.30	31.34	31.38	31.42	31.46
80	31.50	31.54	31.58	31.61	31.65	31.69	31.73	31.77	31.81	31.85
81	31.89	31.92	31.97	32.01	32.05	32.09	32.13	32.17	32.21	32.24
82	32.28	32.32	32.36	32.40	32.44	32.48	32.52	32.56	32.60	32.64
83	32.68	32.72	32.76	32.80	32.84	32.87	32.91	32.95	32.99	33.03
84	33.07	33.11	33.15	33.19	33.23	33.27	33.31	33.25	33.39	33.43
85	33.47	33.50	33.54	33.58	33.62	33.66	33.70	33.74	33.78	33.82
86	33.86	33.90	33.94	33.98	34.02	34.06	34.10	34.13	34.17	34.21
87	34.25	34.29	34.33	34.37	34.41	34.45	34.49	34.53	34.57	34.61
88	34.65	34.69	34.73	34.76	34.80	34.84	34.88	34.93	34.96	35.00
89	35.04	35.08	35.12	35.16	35.20	35.24	35.28	35.32	35.36	35.40
90	35.43	35.47	35.51	35.55	35.59	35.63	35.67	35.71	35.75	35.79
91	35.83	35.87	35.91	35.95	35.98	36.02	36.06	36.10	36.14	36.18
92	36.22	36.26	36.30	36.34	36.38	36.42	36.46	36.50	36.54	36.58
93	36.61	36.65	36.69	36.73	36.77	36.81	36.85	36.89	36.93	36.97
94	37.01	37.05	37.09	37.13	37.17	37.21	37.24	37.28	37.32	37.36
95	37.40	37.44	37.48	37.52	37.56	37.60	37.64	37.68	37.72	37.76
96	37.80	37.84	37.87	37.91	37.95	37.99	38.03	38.07	38.11	38.15
97	38.19	38.23	38.27	38.31	38.35	38.39	38.43	38.47	38.50	38.54
98	38.58	38.62	38.66	38.70	38.74	38.78	38.82	38.86	38.90	38.94
99	39.98	39.02	39.06	39.10	39.13	39.17	39.21	39.25	39.29	39.33
100	39.37	39.41	39.45	39.49	39.53	39.57	39.61	39.65	39.69	39.73

mm.=millimeter; 10 mm.=1 cm. (centimeter); 100 cm.=1 m. (meter)

DIAMETER AND CIRCUMFERENCE OF SCREENS

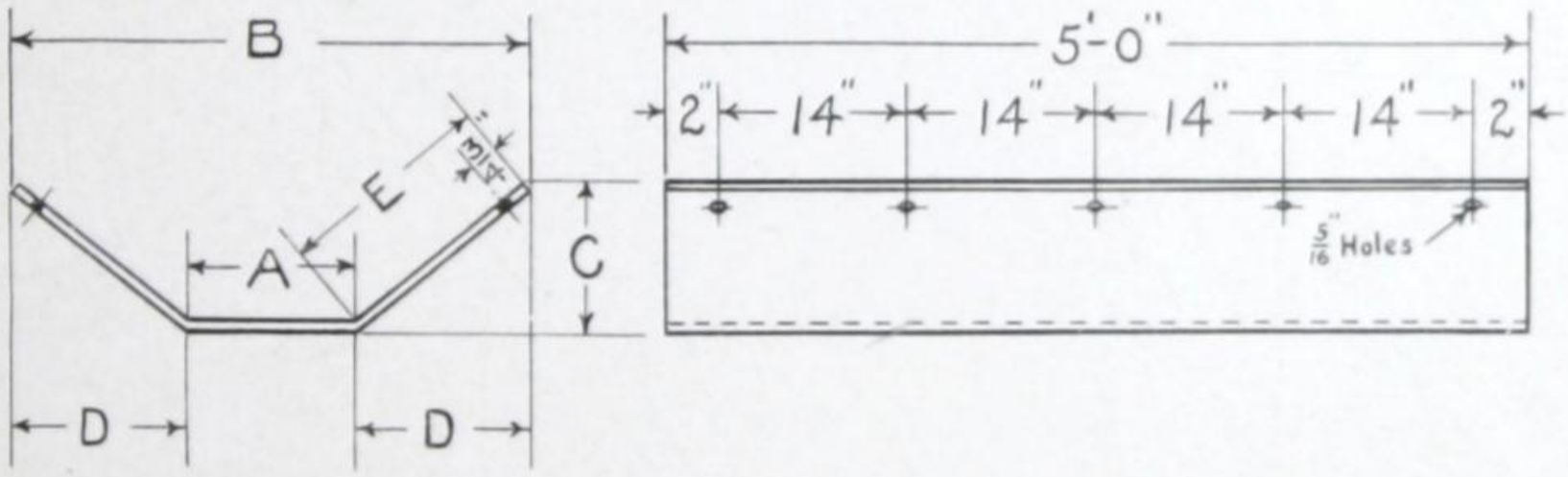
WIDTH AND NUMBER OF SEGMENTS TO ROUND

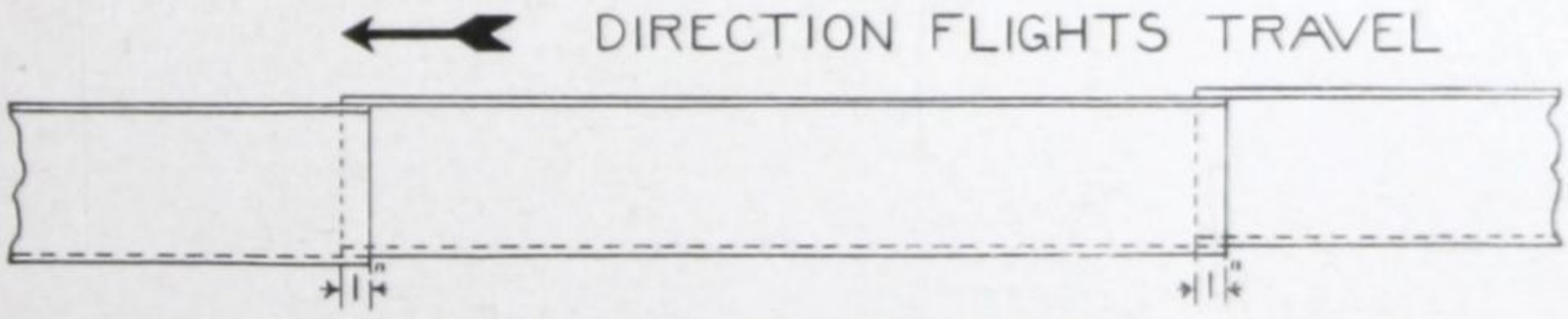
Number of segments to round	3 ft. 0 in.	3 ft. 6 in.	4 ft. 0 in.	4 ft. 6 in.	5 ft. 0 in.	5 ft. 6 in.	6 ft. 0 in.	6 ft. 6 in.	6 ft. 10 in.	7 ft. 0 in.	7 ft. 6 in.	8 ft. 0 in.	8 ft. 6 in.	9 ft. 0 in.
4	28.27	32.99	37.70	42.41	47.12	51.84	56.55	61.26	64.42	65.97	70.68	75.40	80.11	84.82
5	22.61	26.39	30.16	33.93	37.70	41.47	45.24	49.01	51.52	52.78	56.55	60.32	64.08	67.85
6	18.85	21.99	25.13	28.27	31.41	34.56	37.70	40.84	42.93	43.98	47.12	50.26	53.40	56.54
7	16.16	18.85	21.54	24.23	26.93	29.62	32.31	35.00	36.80	37.70	40.39	43.08	45.77	48.47
8	14.14	16.49	18.85	21.20	23.56	25.92	28.27	30.63	32.21	32.98	35.34	37.70	40.05	42.41
9	. . .	14.66	16.75	18.85	20.94	23.04	25.13	27.23	28.62	29.32	31.41	33.51	35.60	37.70
10	. . .	13.19	15.08	16.96	18.85	20.73	22.62	24.50	25.76	26.39	28.27	30.16	32.04	33.93
11	. . .	11.99	13.71	15.42	17.13	18.85	20.56	22.27	23.42	23.99	25.70	27.41	29.13	30.85
12	. . .	10.99	12.57	14.14	15.71	17.28	18.85	20.42	21.47	21.99	23.56	25.13	26.70	28.26
13	. . .	. . .	11.60	13.05	14.50	15.95	17.40	18.85	19.82	20.30	21.75	23.20	24.65	26.09
14	. . .	. . .	10.77	12.12	13.46	14.81	16.15	17.70	18.40	18.85	20.19	21.54	22.88	24.23
15	. . .	. . .	10.05	11.31	12.57	13.82	15.08	16.33	17.17	17.59	18.85	20.10	21.36	22.62
16	. . .	. . .	. . .	10.60	11.78	12.96	14.13	15.31	16.10	16.49	17.67	18.85	20.02	21.20
17	. . .	. . .	. . .	9.98	11.09	12.19	13.30	14.41	15.15	15.52	16.63	17.74	18.85	19.95
18	. . .	. . .	. . .	9.42	10.47	11.52	12.56	13.61	14.31	14.66	15.71	16.75	17.80	18.85
19	. . .	. . .	. . .	. . .	9.92	10.91	11.90	12.93	13.56	13.89	14.88	15.87	16.86	17.85
20	. . .	. . .	. . .	. . .	9.42	10.37	11.31	12.25	12.88	13.19	14.13	15.08	16.02	16.96
21	. . .	. . .	. . .	. . .	. . .	9.87	10.77	11.65	12.27	12.56	13.46	14.36	15.25	16.15
22	. . .	. . .	. . .	. . .	. . .	9.42	10.28	11.14	11.71	11.99	12.85	13.70	14.56	15.42
23	. . .	. . .	. . .	. . .	. . .	9.01	9.83	10.65	11.20	11.47	12.29	13.11	13.93	14.75
24	. . .	. . .	. . .	. . .	. . .	8.64	9.42	10.21	10.74	10.99	11.78	12.56	13.35	14.13
Circumference in inches	113.0973	131.9469	150.7964	169.6460	188.4956	207.3451	226.1947	245.0442	257.6112	263.8938	282.7433	301.5929	320.4432	339.2928

Diameter of a circle x 3.1416=the circumference

HENDRICK MANUFACTURING CO., CARBONDALE, PA.

STANDARD CONVEYOR TROUGH





METHOD OF PLACING TROUGH

Size of Flight Inches	A Inches	B Inches	C Inches	D Inches	E Inches	Width of Sheet Inches	Gauge of Plate	Weight Pounds per Section
4 x 10	6¼	16	3⅜	4⅞	5⅞	18	10	45
4 x 12	7¾	18	3½	5	6⅛	20	10	48
5 x 10	6¼	19¼	4½	6½	7⅞	22	8	64
5 x 12	7¾	21	4⅝	6⅝	8⅛	24	8	70
5 x 15	9¼	23	4 13/16	6⅞	8⅜	26	8	76
6 x 18	11¼	26½	5⅜	7⅝	9⅜	30	6	104
8 x 18	11¼	31½	7	10⅛	12⅜	36	6	124
8 x 20	12¼	36⅝	8½	12 3/16	14⅞	42	¼	168
8 x 24	14¾	42	9½	13⅝	16⅝	48	¼	204
10 x 24	14¾	42	9½	13⅝	16⅝	48	¼	204
10 x 30	18¼	45⅝	9 13/16	13 13/16	17	52	¼	221
12 x 36	21¾	55⅛	11 3/16	15¾	19⅛	60	¼	255

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